THE

Croonian Lectures

ON

FUNCTIONAL DERANGEMENTS OF THE LIVER.

Delivered at the Royal College of Physicians,

BY CHAS. MURCHISON, M.D., LL.D., F.R.S.,

PHYSICIAN AND LECTURER ON MEDICINE, ST. THOMAS'S HOSPITAL.

LECTURE II.—PART II.

THE facts and arguments which I have now brought under your notice have led me to the conclusion that functional derangement of the liver, by interfering with the normal disintegration of albuminous matter, and by the production of peccant substances which are not readily eliminated, and which therefore accumulate in the system, may, in the long run, lead to many of the most serious maladies—both acute and chronic—to which our race is subject. I shall now proceed to consider certain symptoms, indicating derangement of the different physiological systems, but not constituting distinct diseases, which appear to result from functional disorder of the liver.

IV.—*Derangements of the Organs of Digestion.*

1. *The tongue.*—It is well to remember that there may be considerable functional derangement of the liver and yet the tongue may be perfectly clean and normal, or at most only slightly coated in the morning; but in many cases, and particularly if the derangement be of old standing, the tongue presents the appearances commonly described as characteristic of "atonic dyspepsia." It is large, pale, and flabby, and indented by the teeth at the edge of the anterior third, while its surface is white, and the papillæ are often elongated, so as to produce a pilous appearance. If the liver be somewhat congested, with these appearances we may often observe the fungiform papillæ on the tip and edges larger and redder than natural. In other cases, and especially when there is at the same time more or less gastric catarrh, the whole surface of the tongue is uniformly covered with a thick fur, sometimes whitish, but occasionally of a yellowish or brownish tint.

2. The *appetite* may be excellent, although there is great functional derangement of the liver, with lithæmia, so that the patient is often tempted to eat what he knows from experience to disagree with him. But when the flow of bile into the bowel is deficient, the appetite is often bad, and there may be a loathing of fat and of greasy articles of diet. In cases, which are not uncommon, where there is much functional derangement of the liver in conjunction with hepatic congestion and chronic gastric catarrh, there may be a loathing of all food except alcoholic stimulants, which increase the existing mischief, but which, as I have already stated, may lead to the accumulation of large quantities of fat.

3. A *bitter taste* is not unfrequently complained of by persons who are the subjects of jaundice; but the symptom is not due to the presence in the blood of bile-pigment, which is tasteless, but may be owing to its containing taurocholic acid, which is intensely bitter, or some abnormal product of disintegrated albumen. This may explain why many patients suffering from functional derangement of the liver, but who have not a trace of jaundice, often complain of a bitter, or sometimes a "coppery," taste in the mouth, especially in the morning.

4. *Flatulence* is a common symptom of functional derangement of the liver. It is one of the most frequent results of a deficient flow of bile into the bowel, and, when the bile-duct is completely obstructed, it is rarely absent. It is also a common symptom in lithæmia, where there is often also a deficiency of bile in the bowel, and in all cases where the circulation through the liver is torpid. In all these cases, in consequence of a deficiency in the bowels of bile, which, as we have seen, is endowed with antiseptic properties, the intestinal contents undergo fermentation, and gas is generated, which accumulates in the bowels, the distension being usually greatest from one to three hours after a meal.

5. *Constipation or diarrhœa.*—In a large number of cases of functional derangement of the liver with lithæmia, the bowels are more or less constipated; there is, probably, a deficiency in the quantity of bile which passes down the bowel, and, therefore, a want of the normal stimulus to peristaltic action. The motions are either unusually pale, or, from long detention in the bowel and the action upon them of the intestinal juices, they become black and lumpy. The latter condition is often associated with much depression of spirits, and hence the "melancholia" of early writers on medicine.

But functional derangements of the liver may be attended by the opposite condition of diarrhœa, or constipation and diarrhœa may alternate. It is generally assumed that this diarrhœa is due to an increased secretion and discharge of bile; and, in fact, "an excessive secretion of bile," showing itself in "copious, fluid, alvine evacuations, highly coloured with bile, often preceded by griping, by nausea, and sometimes by vomiting," is one of the three functional derangements of the liver described by Dr. Copland* and other practical writers. Dr. Copland admitted that "excessive biliary secretion is more frequently inferred from circumstances than proved by unequivocal evidence"; and, for my own part, without denying the possibility of the biliary secretion being sometimes excessive in quantity and unusually irritating, so as to excite diarrhœa, my experience has induced me to adopt a different explanation for most, at all events, of the cases of so-called "excessive secretion of bile." In most of these cases there is evidence of more or less congestion of the liver; the circulation through the liver is impeded, and there is a general stagnation of blood in the coats of the stomach and bowels. This mechanical stagnation is very likely to become converted into an active congestion or a catarrhal inflammation under the stimulus of irritating ingesta, so that even a small quantity of such a stimulus as alcohol may excite diarrhœa and vomiting. In many of these cases of "bilious diarrhœa" the stools contain much mucus as well as bile. From what has been stated in my first lecture, it is clear that the large quantity of bile discharged from the bowel in these cases is no certain sign of an increased secretion by the liver, but may be due to a diminished absorption consequent on irritation of the mucous surface.

6. *Vitiated stools.*—A "vitiated biliary secretion" is one of the three functional derangements of the liver described by systematic writers. Although there can be no doubt that the appearances of the bile in the gall-bladder after death are subject to great variations, too much importance has, perhaps, been attached to the characters of the stools during life as an index of the state of the liver. It must be remembered that variations in the characters of the stools may be the result of functional derangements or structural disease of the long tract of bowel between the entrance of the bile-duct and the anus, and may likewise depend on the rapidity or slowness with which this tract is traversed by the fæces. Bearing in mind these sources of fallacy, it may be said that when little bile is poured into the bowel, the stools are pale and unusually offensive, unless they be long delayed in the bowel, in which case they may be dark and lumpy; but when there is an excessive secretion or diminished absorption of bile, the motions are relaxed and liquid, and contain a much larger quantity of bile than in the normal state.

7. *Intestinal hæmorrhage.*—Copious hæmorrhage from the bowels is well known to be an occasional result of cirrhosis and of other structural diseases of the liver which obstruct the portal circulation. I have frequently met with it, however, where there has been obvious derangement of the liver, but no reason to suspect structural disease. The patients have, for the most part, been beyond middle age; but I have known the attacks occur repeatedly in the same person at intervals of many years. The attack is usually preceded by a feeling of oppression and heaviness, or by creeping sensations, and more rarely severe neuralgic pains suggesting gall-stones about the liver, by pain in the right shoulder, loss of appetite, nausea, and furred tongue. Great relief is usually afforded by calomel or blue pill, with saline aperients. In the intervals of the attacks the patients may enjoy good health, except that they have to be careful as to diet. Not unfrequently they present the symptoms of the lithic-acid dyscrasia, or they are subject to attacks of gout.

* Medical Dictionary, ii., 725.

8. *Hæmorrhoids.*—In a large proportion of persons who suffer from hæmorrhoids, the primary cause is in the liver. Hæmorrhoids are a common result of structural changes in the liver, such as cirrhosis; but they are also a frequent attendant of functional derangements, and especially of the loaded state of the liver so common in lithæmia.

9. *Hepatic pain.*—With the exception just referred to, severe pain in the liver is not a common symptom of purely functional derangement of the organ. It may even be absent when there is advanced structural disease, unless there be inflammation of the peritoneal investment, or pressure upon a nerve by some morbid growth. But in cases of protracted lithæmia, a sensation of weight, fulness, or tightness in the hepatic region is not uncommon; and when the bowels are neglected, or the patient continues to eat rich food and drink alcoholic stimulants, the liver is apt to become enlarged and congested, and then it may be the seat of actual pain, which is usually increased after meals, or by lying on the left side.

10. *Jaundice.*—In considering whether jaundice may result from functional derangement of the liver, it will be necessary to enter somewhat in detail into its pathology. All cases of jaundice may be referred to one of two classes, viz.:

I. Cases in which there is a mechanical impediment to the flow of bile into the duodenum, and where the bile is in consequence retained in the biliary passages, and thence absorbed into the blood.

II. Cases in which there is no impediment to the escape from the liver into the bowel.

The several causes of jaundice belonging to each of these classes are given in the annexed table.

TABULAR VIEW OF THE CAUSES OF JAUNDICE.

A. JAUNDICE FROM MECHANICAL OBSTRUCTION OF THE BILE-DUCT.

I. *Obstruction by Foreign Bodies within the Duct.*
1. Gall-stones and inspissated bile.
2. Hydatids and distomata.
3. Foreign bodies from the intestines.

II. *Obstruction by Inflammatory Tumefaction of the Duodenum, or of the Lining Membrane of the Duct, with exudation into its interior.*

III. *Obstruction by Stricture or Obliteration of the Duct.*
1. Congenital deficiency of the duct.
2. Stricture from perihepatitis.
3. Closure of orifice of duct in consequence of an ulcer in the duodenum.
4. Stricture from cicatrisation of ulcers in the bile-ducts.
5. Spasmodic stricture?

IV. *Obstruction by Tumours closing the Orifice of the Duct, or growing in its interior.*

V. *Obstruction by Pressure on the Duct from without, by—*
1. Tumours projecting from the liver itself.
2. Enlarged glands in the fissure of the liver.
3. Tumour of the stomach.
4. Tumour of the pancreas.
5. Tumour of the kidney.
6. Postperitoneal or omental tumour.
7. An abdominal aneurism.
8. Accumulation of fæces in bowels.
9. A pregnant uterus.
10. Ovarian and uterine tumours.

B. JAUNDICE INDEPENDENT OF MECHANICAL OBSTRUCTION OF THE BILE-DUCT.

I. *Poisons in the Blood interfering with the normal metamorphosis of Bile.*
1. The poisons of the various specific fevers:
   a. Yellow fever. *b.* Remittent and intermittent fevers. *c.* Relapsing fever. *d.* Typhus. *e.* Enteric or pythogenic fever. *f.* Scarlatina. *g.* "Epidemic jaundice."
2. Animal poisons:
   a. Pyæmia. *b.* Snake-poison.
3. Mineral poisons:
   a. Phosphorus. *b.* Mercury. *c.* Copper. *d.* Antimony, &c.
4. Chloroform and ether.
5. Acute atrophy of the liver.

II. *Impaired or Deranged Innervation interfering with the normal metamorphosis of Bile.*
1. Severe mental emotions, fright, anxiety, &c.
2. Concussion of the brain.

III. *Deficient Oxygenation of the Blood interfering with the normal metamorphosis of Bile.*

IV. *Excessive Secretion of Bile, more of which is absorbed than can undergo the normal metamorphosis.*
Congestion of the liver:
a. Mechanical. *b.* Active. *c.* Passive.

V. *Undue Absorption of Bile into the Blood from habitual or protracted Constipation.*

When any obstruction exists to the flow of bile through the hepatic or common bile-duct, the way in which jaundice arises is sufficiently clear. The bile-ducts and the gall-bladder become distended with bile, which is absorbed into the blood by the lymphatics and the veins. This was satisfactorily proved at the end of last century by the experiments of Dr. Saunders,* which have been confirmed by many subsequent observers. If a ligature be applied to the hepatic duct of a dog, and the animal killed after two hours, the lymphatics in the walls of the bile-ducts, which are very numerous, are seen to be distended with a yellow fluid; the fluid in the thoracic duct is also yellow, and so likewise are the intervening lymphatic glands. In patients, also, who die of obstruction of the bile-duct, the lymphatics of the liver are often found to contain bile. On the other hand, the serum of bile taken from the hepatic vein two hours after ligature of the common bile-duct is found to contain much more bile-pigment than that of blood taken from the jugular vein,† which shows that, in obstruction of the gall-duct, bile is also directly absorbed by the veins.

But it is not so easy to account for jaundice when there is no mechanical impediment to the escape of bile from the liver. Boerhaave and Morgagni long ago suggested that the jaundice in these cases was the result of a suppressed secretion. They maintained that the function of the liver was merely to separate the elements of bile which were already formed in the blood; and that, when anything interfered with this function of the liver, the blood retained the ingredients of bile, and the result was jaundice. Although this view was strenuously opposed at the end of last century by Dr. Saunders, who contended that, "in every case of jaundice, bile must be secreted and carried into the bloodvessels,"‡ it is the view generally received at the present day. Our colleague Dr. George Budd, for instance, in his treatise on "Diseases of the Liver," remarks respecting those cases of jaundice in which there is no obstruction of the bile-ducts, that "the most obvious explanation of the facts is, that the biliary pigment exists in the blood; and that, in consequence of defective action of the secreting cells, it is not eliminated as it should be in the liver."§ It is right to add that he makes an exception with regard to the biliary acids, which he believes to be formed in and by the liver. This view—that the liver manufactures the bile-acids, while it merely eliminates the bile-pigment—has also been advocated by Dr. George Harley, in his essay on "Jaundice."‖

In my first lecture, however, I gave reasons which appeared to me to leave no doubt that even bile-pigment does not exist already formed in the blood; and, if the view which I then contended for be correct, it will be necessary to seek for some other explanation of those cases of jaundice in which there is no obstruction in the bile-duct than that of suppressed secretion.

A solution of the difficulty has been proposed by Professor Frerichs, of Berlin. According to this distinguished observer, a large proportion of the colourless bile-acids formed in the liver is either directly taken up by the blood in the hepatic vein or is absorbed from the bowel. Under ordinary circumstances these bile-acids become oxidised and assist in forming the large quantity of taurin found in healthy lung and the pigments voided in the urine; but these normal metamorphoses are liable to interruption by nervous agencies

* Structure and Diseases of the Liver, &c., third edition, 1803.
† Dr. Legg states that he has recently repeated this experiment in the dog without success.—St. Bartholomew's Hospital Reports, vol. ix., 1873.
‡ Op. cit., p. 107. § Op. cit., pp. 40, 467, 468.
‖ Jaundice: its Pathology and Treatment. London, 1863.

or by poisons in the blood, and then the bile-acids, not being sufficiently oxidised, are converted into bile-pigment in the blood, and the result is jaundice.* This view has been supported by two experiments intended to show—(1) that bile-pigment can be produced artificially from the bile-acids by the action of concentrated sulphuric acid; and (2) that colourless biliary acids, when injected into the veins of dogs, are converted in the blood of these animals into bile-pigment. These experimental results are still the subject of much discussion. They have been controverted by Kuhne,† Hoppe, G. Harley,‡ &c., but confirmed by Stœdeler,§ Neukomm,§ Folwarczny,§ Röhrig,‖ &c. It has been contended, on the one hand, that the biliary acids in these experiments are decomposed in the blood; and, on the other, that, in whatever manner they find their way into the blood, they are excreted unchanged by the kidneys. The majority of observers seem to concur with Frerichs; and his view is confirmed by the circumstance that, of the large quantity of bile-acids secreted by the human liver and subsequently absorbed, none appears in the urine. The decision of the question at issue, however, is not of material importance for explaining those cases of jaundice in which there is no obstruction of the bile-duct, provided there be any truth in the view set forth in my first lecture, that bile-pigment, as well as the bile-acids, is, under normal circumstances, reabsorbed into the blood, becoming transformed, in the process of absorption, into products which are eliminated by the lungs and the kidneys. In the healthy state the whole of the bile that is absorbed is at once transformed, so that neither bile-acids nor bile-pigment can be discovered in the blood or in the urine, and there is no jaundice. But in certain morbid states the absorbed bile does not undergo the normal metamorphoses; it circulates in the blood and stains the skin and other tissues, and in this way we have jaundice without any obstruction of the bile-duct. The morbid states which, so far as we know, conduce mainly to this result are, for the most part, precisely those in which we might expect abnormal blood-metamorphoses—viz.:

1. Certain poisons, such as those of yellow fever, relapsing fever, pyæmia, and more rarely those of remittent fever, typhus, scarlatina, &c.; also snake-poison, chloroform, &c.

2. Nervous influences, such as a sudden fright, violent rage, great or protracted anxiety, and concussion of the brain.

3. A deficient supply of oxygen, as happens in certain cases of pneumonia, or in persons living in confined and crowded dwellings.

4. An excessive secretion of bile, especially when conjoined with constipation, may also probably lead to jaundice. In this case, unless the bile be removed by purging, the quantity absorbed may be too great to undergo the normal metamorphoses, and the presence in the blood of the untransformed bile causes jaundice.

According to this view, the only pathological difference between jaundice from obstruction and jaundice independent of obstruction of the common bile-duct is that, in the former case, none of the bile secreted by the liver can escape from the body by the fæces, and consequently all that is secreted after the gall-bladder and biliary passages are fully distended is absorbed into the blood, the quantity thus absorbed being far too great to undergo the normal metamorphoses; while, in the latter case, bile passes into, and is discharged from, the bowel as usual, but that which is absorbed, which in quantity may not exceed that which is absorbed in health, remains unchanged in the blood. As might have been expected, the jaundice in the former case is much more intense than in the latter, although, when an obstruction of the bile-duct has lasted long, the jaundice often becomes paler, not from any diminution of the obstruction, but from the secreting tissue of the liver becoming destroyed and comparatively little bile being secreted; while, in cases where there is no obstruction of the bile-duct, the intensity of the jaundice will vary according to the amount of bile which is absorbed and the degree of derangement of the blood-metamorphoses.

* Klinik der Leberkrank., Sydenham Society's translation, vol. i., pp. 89, 394.
† Virchow's Archives, vol. xiv., pts. 3 and 4, Sept. 1858; and Beale's Archives of Medicine, vol. i., p. 342.
‡ Op. cit.
§ See my Preface to the English edition of "Frerichs on the Liver," pp. xv., xiv.
‖ Archiv für Heilkunde, Aug. 1863, p. 385.

V.—*Derangement of the Nervous System.*

1. *Aching pains in the limbs and lassitude*, coming on about an hour after a full meal, and sometimes associated with an irresistible tendency to drowsiness, are a very common symptom resulting from hepatic derangement with lithæmia. They are often attended by flatulence and other indications of atonic dyspepsia.

2. *Pain in the shoulder.*—It is well known that, in organic disease of the liver, complaint is often made of a dull, heavy, or aching pain about the right, and more rarely about the left, shoulder-blade, which is accounted for by the connexion existing between the branches of the subclavius nerve and the phrenic. Patients with lithæmia often complain of a similar pain.

3. *Hepatic neuralgia.*—In rare cases, a neuralgic pain seems to occur in the liver itself. Many, probably most, of the reported cases of "neuralgia hepatis" have probably been examples of biliary colic, where the stone has never advanced beyond the neck of the gall-bladder or the cystic duct, so as to cause jaundice. My experience would certainly lead me to doubt the purely neuralgic character of any such attack in which the pain is followed by jaundice, as has happened in some of the recorded cases. Other instances of supposed hepatic colic have probably been examples of nephritic colic from renal calculi, where the pain, as I have known happen, radiates horizontally forwards, instead of taking the usual direction downwards towards the pubes. But, making allowance for such mistakes in diagnosis, a certain number of cases remain, which appear to be examples of true neuralgia of the liver. Cases of this sort have been described by Trousseau,* Anstie,† and other authors, and a few have come under my own notice. The patients in these cases have been liable to sudden attacks, often periodic, of severe pain in the right hypochondrium, and radiating thence to the right shoulder, with tenderness over one or more of the dorsal spinous processes. They have been for the most part of nervous temperament, and subject to neuralgic pains in other parts of the body; and in most instances the attacks have been attended with great depression of spirits. The cause of the attacks is to be sought for in a general neuralgic tendency rather than in any disorder of the liver. Trousseau, however, has pointed out that hepatic colic from gall-stones may excite a true neuralgia. After showing how the peripheral irritation of a false tooth may excite facial neuralgia, he observes:—"The same thing obtains in hepatic colic. Fearful pain sets up suddenly in the pit of the stomach and in the region of the gall-bladder and of the ductus communis choledochus. So far, there is merely local pain, without neuralgia, and there is no tenderness on pressure of the dorsal spinous processes; but, after two or three days spent in acute pain, a sharp pain is frequently complained of in the seventh, eighth, and ninth intercostal spaces, in the shoulder, in the neck, and in the arm on the same side; from that time neuralgia exists, and the vertebræ become very tender on pressure."‡

4. *Severe cramps* in the legs and in different parts of the body are a common symptom in persons who are the subjects of lithæmia. They often come on during the night, and they are most common in cold and damp weather. The late Sir Charles Scudamore remarked that in some gouty persons they produced such intense suffering as to form the leading feature of the disease.§ Sometimes they precede a paroxysm of articular gout. Two remarkable instances of this result of lithæmia have been recorded by Dr. Bence Jones. The first was that of a gentleman aged forty, who for years had been liable to constant deposits of lithic acid and lithates in the urine. He then became the subject of attacks of violent pain in the stomach, coming on from one to five hours after a late dinner. The pain was intermittently spasmodic; the most intense pain was reached in half a minute; it then relaxed, and returned as badly as before in two minutes. His suffering lasted about an hour, when the pain gradually abated, leaving a tenderness on pressure and an irritability after food for two or three days. After the attack the urine always deposited lithic acid crystals. These attacks had lasted several months, but under a careful diet and the use of alkalies they entirely ceased. The second patient, who

* Clinical Lecture, Sydenham Society's Transactions, iv., 236.
† Anstie: On Neuralgia, 1871, p. 61.
‡ Op. cit., Sydenham Society's edition, i., 492.
§ Nature and Cure of Gout, 4th edit., 1823, p. 332.

also was the subject of lithæmia, was seized with violent cramps in the rectum, coming on six or eight hours after food, and lasting from half an hour to an hour. The attacks entirely ceased under the same treatment as in the first case.*

5. *Headache* is a not unfrequent result of hepatic derangement. Most commonly it takes the form of a dull, heavy pain in the forehead, more rarely in the occiput, complained of as soon as the patient awakes in the morning, and either speedily ceasing or lasting the greater part of the day or for several days. Such headaches are common in the subjects of lithæmia after any indiscretion in diet, or when the bowels are constipated. Their immediate cause is probably the presence in the blood of some abnormal product of albumen-metamorphosis; the derangement of the liver is usually indicated by pain and fulness in the right hypochondrium, flatulence, and high-coloured urine loaded with lithates; and relief is usually afforded by mercurial and saline purgatives and alkaline diuretics.

From these headaches it is necessary to distinguish *megrim*, which unfortunately is the form of headache to which the terms "bilious" or "sick" are still popularly applied. This is a neuralgia, which probably in most cases is in no way connected with hepatic derangement, the bilious symptoms being the result and not the cause of the attack, and the presence of bile in the vomited matter being, as in sea-sickness, simply due to the urgency of the vomiting. Although this view was enunciated two centuries ago by Sydenham, and since his time has been clearly set forth in many medical writings, of which I would mention, in particular, the Gulstonian Lectures of the late Dr. Symonds, delivered in this College in 1858, and the excellent work of Dr. Edward Liveing,† recently published, it is still the fashion to attribute these attacks to "biliousness" or to "an excess of bile in the system."

But, while fully admitting that megrim is in no way connected with retained bile, I agree with those authors who believe that certain cases of megrim are toxic in their origin, being symptomatic of gout and of some other disorders. The late Sir Henry Holland, in his "Medical Notes and Reflections," described hereditary periodic headaches associated with gout, and he added: "In conformity with this view, there is reason to believe that the kidneys are the excretory organs most concerned in giving relief in these cases, and principally by an increased 'separation of lithic acid and its compounds.'"‡ Megrim, as Dr. Liveing states, is sometimes the expression of what is called a latent gouty diathesis, or, in other words, of lithæmia. A father may have suffered from gout, and his son may become the victim of megrim. In some patients megrim terminates when they are attacked with gout. "So evidently," observes Trousseau, "is it (megrim) a manifestation of the gouty diathesis, that articular gout and megrim are observed in the same person, the one subsiding on the appearance of the other; and that it is often also the only expression of the hereditary tendency in subjects who are the children of decidedly gouty parents."§ In connexion with these observations, I would call attention to certain cases which have come under my notice of severe neuralgic headache occurring in connexion with contracted granular kidneys, and being sometimes the first symptom for which the patient has sought medical advice. The headache in these cases was evidently toxic, and in one instance fatal coma followed the subcutaneous injection of a quarter of a grain of morphia. The headache has been so severe that more than once I have known the case diagnosed as one of cerebral tumour. I have met with these cases so frequently, that I make a point of investigating the condition of the kidneys in all cases of neuralgic headache occurring for the first time in persons of middle or advanced age.

In this way, then, megrim may sometimes be traced to hepatic derangement, this derangement consisting, not in the retention of bile, but in that condition of liver which we have found to produce lithæmia, and often to lead to gout; and, in accordance with this view, I have often noticed that megrim has been produced by particular articles of diet, and relieved by mercury, podophyllin, and other remedies which unload the liver.

* Lecture on Pathology and Therapeutics, 1867, p. 85.
† On Megrim and some Allied Disorders. London, 1873.
‡ Medical Notes and Reflections, 1839, p. 288.
§ Op. cit., Sydenham Society's edition, iv., 378.

6. *Vertigo and temporary dimness of sight.*—Sudden attacks of giddiness are in many instances similar in their pathology to megrim, and giddiness in certain patients replaces the neuralgia. But giddiness, according to my experience, is, in a much larger proportion of cases, connected with hepatic derangement, lithæmia, and gout, and follows the use of certain articles of diet, such as tea, champagne, citron, &c. Many years ago, Boerhaave's commentator related the case of a man who, during two years, was always seized with vertiginous symptoms when he attempted to stand up. In vain had the ablest practitioners endeavoured to cure him. Quite suddenly he had an attack of gout, of which disease, up to that date, he had had no indication; and from that moment he found himself free from the vertigo to which he had formerly been liable.* A medical friend of my own who has long suffered from gout, as certainly as he drinks a cup of tea or a glass of champagne, is seized, often while walking in the street, with sudden giddiness; his head feels empty, and neighbouring objects seem to whirl round him; he does not lose consciousness, but he would fall did he not lay hold of the railing. After a few seconds or minutes the attack passes off; but in some patients it is more persistent. Another friend who never has had gout, but whose urine is frequently loaded with lithates, was seized with dimness of sight and giddiness every night while writing. He took iron, quinine, and other tonics, but he got worse instead of better. He was advised to give up his profession for a time, and try the effect of change of air; but, before taking so serious a step, he took a few doses of blue pill, and the symptoms at once and permanently disappeared. A third patient under my care, who for years had been subject to lithæmia, but never had gout, would be suddenly seized, while writing, with dimness of sight and specks floating before the eyes, or even with complete, but temporary, blindness of one eye. Here also iron and quinine disagreed, but the symptoms were removed by remedies directed against the liver. Many writers have referred attacks such as those which I have now described to derangements of the stomach. Trousseau, for example, who has described them under the designation of "vertigo à stomacho læso," speaks of them as associated with epigastric pain increased by food, flatulence, acid eructations, and vomiting of glairy mucus; but he admits that the gastric derangement in which the vertigo is supposed to originate may not show itself, and this admission certainly accords with my experience. On the other hand, the circumstance of the frequent association of the vertigo with gout or lithæmia, and the fact that alkalies and aperients, which are the best remedies for these conditions, are also the remedies most likely to prevent a recurrence of the attacks of vertigo, make it probable that this has a toxic origin, and that the liver is the organ mainly at fault.

7. *Convulsions.*—In January of the present year, I saw a gentleman, about fifty-eight years of age, suffering from cirrhosis of the liver. He had all his life been addicted to the pleasures of the table, and had suffered from hepatic derangements as long as he could remember. Six years ago he became subject to severe spasmodic twitchings in his legs, followed on three occasions by violent epileptiform seizures. Shortly after the last fit he had his first attack of gout, and since then he had suffered repeatedly from the gout; but there had been return of the convulsions or of the muscular twitchings. There was no evidence of renal disease. Many similar cases are, I believe, on record. For example, Van Swieten mentions the case of a man who had violent abdominal pains accompanied by delirium and general trembling, and subsequently a severe attack of epilepsy. From that date he had repeated attacks of gout, but no return of the nervous symptoms.†

8. *Noises in the ears* are common symptoms in gout,‡ and also in lithæmia independent of gout. One patient has the feeling of a strong wind blowing in the ear; another compares the noise to that of flowing water, or of singing or buzzing; while in another the sounds have a pulsating character, the sounds corresponding to those of the heart.

9. *Sleeplessness* may, of course, arise from many different causes, but one of its causes is that derangement of the liver which produces lithæmia. When this is the case, the patient is often heavy and drowsy after a full meal, and he

* Op. cit., Sydenham Society's edition, iv., 379.
† Trousseau, op. cit., iv., 379.
‡ Scudamore, op. cit., p. 376.

may fall asleep at once on retiring to rest; but, after one, two, three, or four hours, he awakes, and then he either lies awake for hours, or he is constantly falling asleep, dreaming, or having the nightmare, and awaking—four or five times or even oftener in the course of an hour—until the morning comes, when he drops into a quiet sleep of an hour or more, or he is obliged to get up tired and irritable. This sleeplessness, like the vertigo we have already considered, is often induced by particular articles of diet, or by some unwholesome combination of them. What will excite headache, giddiness, or disorders of the circulation in some patients will in another cause sleeplessness. Sometimes, however, this symptom will occur when the patient is most careful as to diet. What is important also to note is, that, in most of these cases, there are no obvious symptoms of gastric dyspepsia; the appetite may be good—too good in fact; the bowels may be irregular; and there may be no pain, flatulence, or other discomfort after meals; but there will be found an unusual tendency to the deposit of lithates in the urine, and very often other phenomena of a so-called gouty diathesis. This form of sleeplessness was described a century ago by Cullen, the distinguished nosologist, in these words: "Persons who labour under a weakness of the stomach, as I have done for a great number of years past, know that certain foods, without their being conscious of it, prevent sleeping. So I have been awakened a hundred times at 2 o'clock in the morning, when I did not feel any particular impression; but I knew that I had been awakened by an irregular operation in that organ, and I have then recollected what I took at dinner, which was the cause of it. Dr. Haller is liable to the same complaint; and, in his larger work especially, he gives the particulars of his own case."* The affection has also been well described by Dr. Dyce Duckworth in some excellent observations on different forms of sleeplessness recently published.† It is, however, a form of sleeplessness not generally understood, and harm is often done to patients suffering from it by the administration of opiates and other soporifics, from ignorance of its real cause. Very often the symptom will be greatly relieved, if not entirely removed, by careful attention to diet, and particularly by moderation in, or abstinence from, wine; and, in some cases, a dose of carbonate of soda when the patient goes to bed, or when he first awakes, is of service. Some patients with this form of sleeplessness have told me that they never sleep so well as after a dose of calomel or blue pill.

10. *Depression of spirits.*—The influence of the liver upon the animal spirits has been recognised by medical writers in all ages. To the belief in the existence of such an influence may be traced the origin of such terms as *hypochondriasis* and *melancholia*. Although it is not contended that the morbid states of mind to which at the present day we apply these terms have their origin in the liver, they are unquestionably, in many instances, accompanied and aggravated by derangements of this organ; and it is equally true that, independently of either hypochondriasis or melancholia, persons with functional derangement or structural disease of the liver are subject to fits of great depression of spirits and often groundless fears of impending danger, which cease when the liver is restored to its normal state.

11. *Irritability of temper* is another common symptom of functional derangement of the liver, and is sometimes the first indication of anything wrong. A man who has previously borne the crosses of life with equanimity, and been amiable to those about him, gradually becomes disconcerted by trifles; his mind broods upon them; and he makes all around him unhappy, and himself the most miserable of all. His relatives, perceiving no other sign of indisposition, and failing to recognise the true cause, too often put down the ebullitions of temper to something mentally or morally wrong; but remedial measures calculated to restore the liver to healthy action, if resorted to in time, will often remove the irritability, and thus reveal its cause.

12. *Cerebral symptoms and the typhoid state.*—It is well known that restlessness, delirium, stupor, coma, subsultus, tremors, convulsions, a dry brown tongue, and other phenomena of the "typhoid state," are apt to supervene in certain cases of advanced disease of the liver, whether attended by jaundice or not. These symptoms have been usually attributed to a suppressed secretion of bile. But the assumption that the elements of the bile are performed in the blood, and are merely separated from the blood by the liver, we have already found to be devoid of foundation, and we have also found that bile is far from being, as commonly supposed, a deadly poison, and that its presence in the blood, even to saturation, does not give rise to cerebral symptoms. The cerebral symptoms referred to are often most severe when the jaundice is slight, or when there is none, and they are readily accounted for by the knowledge of the disintegrating function which the liver is now known to perform. When this function of the liver is arrested or seriously impaired, urea is no longer eliminated in sufficient quantity by the kidneys; lithic acid and deleterious products of disintegrating albumen even less oxidised, such as leucin and tyrosin, and perhaps others with which we are as yet imperfectly acquainted, accumulate in the blood and tissues, and the result is the development of symptoms of blood-poisoning similar to those which arise when the kidneys are unable to eliminate the products of albumen-disintegration owing to disease of their own structure, or to an excessive formation of urea and other products, as happens in many febrile diseases. In acute atrophy, for example, the structure of the liver is destroyed and its functions arrested; leucin and tyrosin take the place of urea in the urine, and are also found in large quantities in the liver, spleen, and kidneys, while cerebral symptoms and the typhoid state are prominent features of the disease.

* Institutions of Medicine, 1770.
† British Medical Journal, December 27th, 1873.

ABSTRACT OF

Lectures ON ELECTRO-THERAPEUTICS.

Delivered at Charing-cross Hospital,

BY G. VIVIAN POORE, M.D.,
ASSISTANT-PHYSICIAN TO THE HOSPITAL, ETC.

LECTURE II.

PRINCIPLES INVOLVED IN THE CONSTRUCTION OF INDUCTION APPARATUS.—GENERAL CONSIDERATIONS WITH REGARD TO BATTERIES AND INDUCTION COILS.

INDUCTION is of two kinds—voltaic and magnetic. The principle of voltaic induction is simply this, that conductors traversed by voltaic currents induce electric disturbance in neighbouring conductors. A voltaic induction apparatus consists of a galvanic element and two coils of wire, one of which is freely movable over the other. The internal coil is fixed; it contains a core of iron wires in its interior, and its two ends are attached to the poles of the galvanic element, of which it forms the circuit. The outer movable coil has no communication whatever with the galvanic element. By a simple contrivance a patient or any part of a patient can be included in the circuit of either coil. Now whenever the circuit of the primary coil is opened or closed a momentary current traverses the spirals of the outer coil. This current which is induced in the outer coil flows in an opposite direction to the inducing current when the circuit is closed, and in the same direction as the inducing current when the circuit is opened. The opening current is therefore more powerful than the closing current. Since these induced currents are of only momentary existence—at the instant of making or breaking the current in the inducing coil,—some means of rapidly making and breaking the inducing current is necessary. This is effected by means of the core of soft iron wires, which becomes strongly magnetic whenever an electric current traverses the coil which encloses it. Over the core is a spring hammer, the head of which is attracted whenever the core becomes magnetic. The shaft of the hammer is so constructed that it is an integral part of the conductor; and whenever the head of the hammer is attracted by the iron core, the continuity of the conductor is broken, and the current is interrupted. The current ceasing, the core is no longer magnetic, the hammer flies back to its original position, and the current, and with it

the magnetism, is instantly renewed, to be as instantly interrupted again. In this way a succession of induced currents is insured in the outer coil.

Again, whenever a magnet is inserted into, or withdrawn from, the interior of a coil of wire, an electric current is induced in the spirals of the coil. When, therefore, the core of iron wire becomes magnetic by the inductive action of the electric current circulating in the coil, the core in its turn induces an electric current in the coil surrounding it. Further, each turn of the coil has an inductive action on the turns next it. Thus in an induction apparatus we have two induced currents: (1) the current induced in the external coil, which is spoken of as the *induced current*, or *the current of the secondary coil*; (2) the current of the internal coil, partly due to voltaic and partly to magnetic induction. This is spoken of as the *extra current*, or the *current of the primary coil*.

The strength of the current of the secondary coil is regulated by the degree in which it overlaps the primary coil. When the overlapping is complete the current is at its maximum, and when the inner coil is in no degree overlapped by the outer the current ceases.

The current of the primary coil is regulated by a brass sheath, which can be drawn completely, or to a less degree, over it. This brass sheath has the effect of counteracting and annulling the inductive action of the soft iron core, and the intensity of the "extra current" is therefore in exact proportion to the amount of the coil which is not enveloped by the brass sheath.

The ordinary *magneto-induction* apparatus consists of two coils of insulated copper wire, wound round cores of soft iron. These coils can be made to rotate rapidly round each other, so that their soft iron cores are brought alternately in contact first with one and then with the other of the poles of a stationary horseshoe magnet. The soft iron cores coming in momentary contact with the poles of the magnet are themselves indued with momentary magnetic properties, on the accession and cessation of which electric currents are induced in the coils which surround them.

There are certain indispensable qualities and accessories which all medical batteries should possess. These are—

1. *Constant elements.*—The medical practitioner has at present a large choice of serviceable elements. The modified Daniell's, the modified Smee's, the Leclanché, and the Stöhrer element, are all reliable.

2. *A large number of elements.*—This follows as an obvious result of Ohm's law, for when dealing with the human body the resistance in circuit becomes very great, and consequently a large number of elements is absolutely necessary. "The electro-therapeutist," says M. Cyon, "will not obtain a stronger current with forty elements as big as a tumbler than with the same number the size of a sewing thimble." Another advantage of having a large number of elements is that, as those which have been most used become weaker, we may have some to fall back upon which still retain their power.

3. *The elements should be capable of being immersed in or lifted out of the exciting liquid at pleasure.*—Since it is almost impossible to prevent local action, even when the circuit is not closed, this becomes a most important consideration. *Cæteris paribus*, those batteries are to be preferred in which it is impossible to close the lid unless the elements are free of the liquid. With Daniell's elements the matter of liberation from the liquid is of less importance, since these, as well as the Leclanché elements, will remain in working order for many months, even though they be constantly immersed.

4. *Means of regulating the intensity of the current.*—This is usually effected by bringing a greater or less number of elements into the circuit. It may also be effected by introducing varying amounts of artificial resistance into the circuit by means of instruments called rheostats. Duchenne has been in the habit of regulating the intensity of his currents by a rheostat consisting of a column of water, a greater or less length of which can be included in the circuit. For more accurate purposes the rheostats known as Siemen's, or Meyer and Wolff's, are necessary, by means of which known lengths of wire, offering a definite resistance, can be included in the circuit. For all ordinary clinical purposes rheostats are not required, and the regulators, by means of which a greater or lesser number of elements are employed, are all that is necessary.

5. *Means of opening and closing the circuit and of controlling the direction of the current*—in other words, a key and commutator—are absolutely necessary, and no battery can be considered as complete which is not furnished with this apparatus. By means of it we are enabled to open and close the circuit and reverse the direction of the current without altering the position of the rheophores on the patient's body. Another accessory of some importance is a *rheotome* or interrupter of the current. Slow interruptions may be effected by means of the commutator, but for rapid interruptions a cogged wheel is required. The pedal rheotome and commutator designed by Dr. Gowers will be found a very useful piece of apparatus.

With regard to *induction apparatus*, these should have,—

1. *Well insulated coils.*—When buying an induction machine, always look to this point, and see that the wires are carefully "served" with their silk covering. The surface of the coils should be covered with a layer of varnish, and the regulating tube should slide over the primary coil without any undue amount of friction, which would rapidly cause the rubbing off of the insulating material.

2. *Means of including in the circuit either the primary or secondary coil without altering the connexions of the conductors.*

3. *Means of regulating the interruptions of the primary current.*—This should be effected automatically by means of the magnetic core and the spring trembler. The interrupter supplied with Stöhrer's apparatus is almost the only automatic one which allows of any exact regulation of the rapidity of interruption.

4. *Means of graduating the intensity of either current.*—This is effected by (*a*) the degree of immersion of the elements; (*b*) the "*extra current*" is regulated by the brass sheath which slides over the primary coil; (*c*) the induced current is regulated by the position of the secondary coil with regard to the primary coil.

In the magneto-induction apparatus the rapidity of interruption is regulated by the rapidity of rotation, and the intensity of the current by the position of the armature with regard to the poles of the horseshoe magnet. These magneto-induction apparatus are very cheap, and little liable to get out of order; and if they could be so made that the rotation might be effected by means of a treadle, and thus leave the hands of the operator at liberty, there is no reason why they should not be employed on most of the occasions where faradaism is indicated. Batteries and induction apparatus should both be furnished with good conductors. The most generally useful form of conductor is ordinary gutta-percha-covered telegraph wire. This form of conductor, being very perfectly insulated, is very effectual, and, being impervious to moisture, is little liable to get out of order. The only advantage of the ordinary silk-covered conductors is their greater pliancy; but otherwise they are less perfect conductors, more expensive, and far less durable than the telegraph wire. The telegraph wire allows us by the exercise of a little ingenuity to make our own connexions, which is often a very great advantage.

When buying a battery, always see that the elements are covered so that no dust can fall into the cells. If dust fall into the cells we are liable to get local action, sulphurous fumes, and weakening of the exciting liquid. Cleanliness is of the greatest importance. Always see that a battery is clean and dry before putting it away.

It is very advisable to become thoroughly acquainted with the construction of apparatus, and the possessor should, once at least, take them to pieces and put them together again. In this way more knowledge is got than by any amount of reading; and in case of any failure on the part of the apparatus, one is enabled intelligently to investigate the cause.

It is much to be regretted that manufacturers are not agreed as to the best form of binding screw and connexion. They all have their own, and, as a consequence, the apparatus of one manufacturer cannot, as a rule, be used with a battery made by a different manufacturer. Thus a great check is placed upon the sale of electrical apparatus for medical purposes. Even the same manufacturer will occasionally employ a different form of connexion for his galvanic and his faradaic apparatus, apparently for no reason at all. Here, for example, are two galvanic batteries and one induction apparatus made by the same manufacturer. The rheophores supplied with the batteries cannot be properly affixed to the induction apparatus owing to the difference in the

form of connexion, and thus one is put to the needless expense of having special rheophores for each apparatus. Again, the commutator and interruptor, which is readily attached to one of the galvanic batteries, cannot, by the exercise of any amount of ingenuity, be affixed to the other. Manufacturers will best serve their own interests by attention to details of this kind.

ON THE

REMOVAL OF HÆMORRHOIDAL AND OTHER TUMOURS.

BY HENRY LEE, F.R.C.S.,
SURGEON TO ST. GEORGE'S HOSPITAL.

DUPUYTREN and Cline were in the habit of removing internal piles by cutting them off with a pair of scissors. Sir B. Brodie at one time adopted this practice. In about two-fifths of Dupuytren's cases subsequent hæmorrhage occurred, and sometimes to a very considerable extent. Sir B. Brodie, during the short time he tried the practice, states that, in the first one or two cases, he found no inconvenience to arise from his altered practice; but then a case occurred in which the patient lost a great deal of blood; in another case the hæmorrhage was so great that the patient nearly died; and then a third case occurred in which also the patient lost an enormous quantity of blood. After that time Sir B. Brodie always removed large internal piles by ligature. The following is the plan he recommended:—If the piles be of large size a large curved needle is passed through the base of each, armed with a strong double ligature. The double ligature is divided into two single ligatures, "which are tied round the base of the pile, one on one side and the other on the other side, with a single knot. . . . You then proceed to another step of the operation: cut off the convex portion of each pile, so as to make an opening into the cavity of the convoluted vein which forms it. Thus you take off the tension produced in the pile by the blood which it contains, and are enabled to draw the ligature tighter than before. . . . You have now only to complete the double knot upon each of the ligatures, and cut off the threads close to the knots, returning the piles, ligature, and all into the rectum."

Now in this mode of performing the operation there is one source of danger which has been overlooked. It may so happen that a large vein is transfixed by the needle, and its two sides held separate. Its open mouth would then be bathed in the puriform secretions of the parts, and the conditions would be those most favourable for the absorption of those secretions. I have examined the body in more than one case where death might have been attributed to this cause. In one instance in particular, where the operation was performed by a most experienced surgeon, secondary deposits were found in the liver and in no other part—showing that the absorption must have taken place through the superior hæmorrhoidal veins. This particular cause of danger may be avoided by carrying the ligature from one side, after the double knot is tied, round the whole tumour, as has often been done, and tying it on the opposite side.

Another objection to this mode of operating is the pain. In order to draw the ligatures very tight, the parts must be pulled down to a level with the hands. This causes very considerable suffering; and although, for the moment, or under the influence of chloroform, this may be of no great consequence, yet there can be no doubt that the less the parts are disturbed the less risk there will be of subsequent inflammation. I have known a number of patients who have complained most bitterly of the pain that has been caused by the operation of tying their piles, and this not only at the time or immediately after the operation, but sometimes for several days. This pain I have attributed in great measure to the forcible dragging down of the parts below the level to which they would naturally be protruded.

A third objection to the operation by ligature is the comparative length of time that the patient is kept in bed. The ligature has to eat its way through, and some portion of the pile necessarily sloughs off before the process of repair can commence; a week may thus be lost, during which time generally there is more or less constitutional disturbance.

The old operation which I have now described was, on the whole, a good one and generally successful, but patients who have undergone it have often warned others against undergoing the same. Some patients have an instinctive dread of having any cutting or of having needles used. The operation may then be performed with safety and without dragging upon the parts by the elastic ligature. I have performed several operations in this way. The pile is seized with a pair of forceps which closes with a spring or a screw and terminates in a ring. The elastic ligature is carried with the point of the finger several times round the end of the forceps and tied. The protruding pile or piles are then returned into the rectum. They slough off in the same manner as if tied with a silk ligature, but there is this additional security—namely, that the ligature always remains tight. If the pile be large, and a ligature is applied, after it has eaten its way partly through it becomes loose, and should the pile not be completely dead the circulation in it may be in part restored, and there is some danger of the products of the decomposing mass becoming absorbed.

It is astonishing with what rapidity the elastic ligature will cut its way through. Not long ago a case of fistula in ano was under my care in St. George's Hospital. Not wishing, for some cause or other, to perform the usual operation, I passed several threads of elastic ligature through the fistula, and brought them out of the rectum. They were then tied moderately tight. At the expiration of forty-eight hours I was going to farther tighten the ligatures should it be found necessary, when, to my surprise, they came away in my hand, having completely divided all the structures between the fistula and the bowel. The elastic ligature, if used for this or for other purposes, should be solid. If tubular, when stretched it flattens against the parts, and, consequently, does not cut through them so easily.

The objections mentioned with regard to Dupuytren's and Brodie's modes of removing piles apply in some degree to a modified operation which has been extensively practised of late years. It consists in a combination of cutting and tying. The tumour to be removed is drawn down by a hook armed with several sharp teeth. The mucous membrane is cut through at its sides and lower part with a pair of scissors. The remainder of the pile, which generally contains its arterial supply, is then tied. The portion of the tumour which projects beyond the ligature is cut off, and the remainder is returned into the rectum.

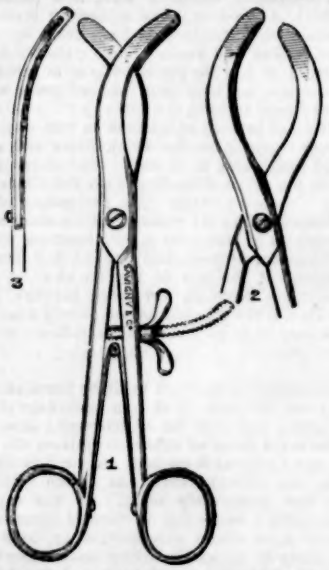
By far the best and safest way, according to my experience, of removing a pile, is to grasp it at its base with a clamp made in the shape of a pair of scissors, curved on the flat, and with the points turned inward; then to cut the pile off with a pair of scissors of the same shape, and to sear the cut surface with an iron after it has passed from a dull-red to a black heat.

The advantages of the clamp represented in the accompanying electrotype are: 1. That, being curved horizontally, it can be inserted between the nates, so as to grasp the base of the pile, without the latter being forcibly dragged down. 2. From the limbs of the instrument being curved inward, every portion of the pile is equally compressed, and no part can possibly slip. 3. One blade is made to play within the other, so that they cannot be displaced by any horizontal pressure. 4. The blades are sufficiently thin to allow nearly the whole even of a small tumour to project, and consequently to be removed, on the concave surface of the clamp.

Operating with this instrument, I have hitherto had no case in which there was any hæmorrhage to signify. About a year ago I removed a large portion of the tongue with a similar instrument; and about a month from the time I am writing I removed a testicle affected with soft cancer, which weighed something less than a pound. The cord was seized with the clamp and cut with a pair of curved scissors. The cut surface was then seared in the way described. No ligatures were required. The wound was closed with carbolised sutures, and healed very satisfactorily, although the patient had an attack of erysipelas of the skin covering some enlarged glands in the opposite groin.

The first curved screw clamp which I had made was in

1839. It consisted of two parallel metal plates curved on the flat, with a screw at each end. This instrument I have still in my possession, and have lately used it in removing



a very large mass of epithelial cancer from the scrotum. Various modifications of this instrument, and the mode of using it, have at different times been adopted. Mr. Matthews, of Portugal-street, many years ago made for me a clamp in the shape of a pair of scissors, with the blades curved in both directions, as above described. Mr. H. Smith adapted a screw to the handles of a similar-shaped instrument, and this was a great improvement; but the instrument which at present passes under Mr. Smith's name has straight, thick, parallel blades, which render it difficult to be used when it has to be introduced between projecting parts. When the tumours are small, they are often compressed between the blades, instead of being protruded beyond them. If the blades of an instrument are parallel, the pressure which it exerts must be chiefly on the centre or thickest part of the tumour. The parts of the tumour near the point and the handle of the instrument, unless very great force is used, have comparatively little pressure exercised upon them; and these parts, as is found in practice, are very liable to slip away from the instrument during the operation. If this happens after a pile has been excised, very inconvenient hæmorrhage may take place. If, on the other hand, very great pressure is used, the parts are left bruised, and in a condition not adapted for rapid recovery.

It might be supposed that a thick blade would more effectually protect the subjacent parts in cases where the actual cautery is used; but experience proves that this is quite unnecessary. It seldom happens that after an operation of this kind the clamp is even warm to the touch. The thicker the blades, under similar circumstances, the less of the tumour can project beyond them, and the less, therefore, can be removed. In operating upon hæmorrhoidal or other tumours, it is of considerable importance, as regards the subsequent pain and the rapidity of recovery, that the parts should not be bruised, and should not be dragged more than necessary out of their natural position. At different times I have tried a variety of instruments, and there is none, I believe, which will enable the surgeon to remove tumours in the way mentioned so safely and with so little disturbance to surrounding parts as that now described, made for me by Mr. Blaise, of St. James's-street. The rapidity with which patients recover, as compared with the operation by ligature, is a point of no little importance.

A general in the army, upwards of seventy years of age, had piles with protrusion of the mucous membrane, so that he could not walk without great inconvenience. He submitted to the operation without chloroform as I have described it. I saw him once or twice subsequently, but five days after the operation when I called I was told that, feeling well, he had gone to Brighton. This gentleman remains well up to the present time. If care be taken not to stretch or bruise the parts, and no slough be produced by the cautery, cicatrisation commences at once, and is soon completed.

In performing this operation I much prefer the heated iron to the galvanic cautery. When the iron is applied to the part at the heat mentioned, the cut surface will actually adhere to it. This probably depends upon the coagulation of the albumen in the tissues, and the same action that makes the parts adhere in some degree to the iron will make them adhere to one another. The vessels in this way are sealed in a way that they cannot be where a slough is produced. With the galvanic cautery the temperature cannot be regulated, and it is difficult to say beforehand whether the wire will become of a black, red, or white heat. If a slough is produced, as it certainly would be by a red heat, that slough must separate before the process of repair commences. In operating on piles with the clamps formerly in use, I was in the habit of introducing a plug with a large bulb into the rectum, after the operation, in order to prevent any subsequent hæmorrhage. This I have now discontinued, as unnecessary.

In advocating, as I do, the operation by clamp and actual cautery for the removal of solid piles or tumours in other parts, I would guard myself against being understood to mean that all piles should be treated in this way. Where the mucous membrane and the parts below are not much thickened, a very great deal may be done by constitutional treatment, ablution with cold water, and especially by the local use of suppositories containing the powder of cubebs. In cases, again, where these fail, the application of the strong nitric acid is an excellent remedy. The mode of applying this, as at first practised, was objectionable. The parts were made to protrude, and the acid was smeared over them; some of the acid is, under such circumstances, drawn up by capillary attraction between the folds of the bowel, and here it becomes mixed with the secretions of the parts, and, consequently, diluted. The result is, that it irritates but does not kill the mucous membrane with which it comes in contact, and a very considerable amount of inflammation and of suffering may be produced.

The best way of applying the acid, according to my experience, is to introduce a small speculum into the bowel, such as was first described by Sir William Fergusson. It has an opening on its side or near its extremity. It may be moved about until the pile projects into the opening. The pile is now wiped dry, and the acid applied on a glass rod. Several successive applications may be made in this way, but during the process the speculum should be held perfectly still. When the acid has produced the effect desired, some chalk-and-water should be freely used, so as to neutralise any remaining acid, and then the speculum may be removed. Performed in this way the operation is perfectly safe, and, as far as the acid is concerned, painless.

It is well to destroy one pile only at a time, but the operation may be repeated as often as necessary at an interval of three or four days.

Savile-row, W.

A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS (DUCHENNE'S PARALYSIS) IN THE THIRD STAGE.

BY BALTHAZAR FOSTER, M.D., F.R.C.P.,
PROFESSOR OF MEDICINE IN QUEEN'S COLLEGE, PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM; CONSULTING PHYSICIAN TO THE WEST BROMWICH HOSPITAL.

IN THE LANCET for May 8th, 1869, I published the case of a boy affected with pseudo-hypertrophic paralysis, who was then in the second stage of the disease, or that of muscular enlargement. As only a few cases of this affection have as yet been recorded in this country, I think the description of the present state of this patient, who has now entered on the third stage of the disease, may prove of interest. When he first came under my care his enormous

muscular development* made him look like a little Hercules. This muscular enlargement had been preceded by a period of muscular weakness and difficulty in walking, and has now been succeeded by the muscular wasting and general paralysis which characterise the third stage.

The boy again came into the hospital under my care towards the close of 1873. From the father's account it appeared that after the boy's discharge in April, 1869, his power of walking had progressively decreased, and that in the course of eighteen months he had been reduced to crawling about his home. For some months before his admission (1873) he had been unable even to crawl, and had been obliged to remain in any spot on which he was placed. His father carried him down from his bed in the morning, propped him up in a chair or on a sofa, and there the lad remained all day.

When admitted, his wasted limbs and general powerlessness presented a marked contrast to the condition in which he had left the hospital in 1869. In the interval he had grown in length of limb and size of trunk; his face was still well nourished, and his general intelligence was greater than formerly; as far as muscular power was concerned he was, however, almost an inert mass, being able only to move his trunk sideways in the slightest degree by using his right arm as a lever.

When he was stripped his skin was observed to be harsh, dry, and more mottled than formerly—this peculiarity had originally been confined to the lower extremities, but now also affected the surface of the trunk and upper extremities. When the boy was raised and supported in the erect position by two persons, one holding him under each axilla, and the other supporting him from below by a hand placed under each tuberosity of the ischium, he could make no effort to rest his weight on his lower limbs; his legs, indeed, remained semiflexed, the toes pointing to the ground and the heels drawn up by the muscles of the calves, while the hamstrings prevented any straightening of the lower legs even by force. When held in this position the spine was curved with the convexity backwards, and the former lumbo-sacral concavity could not be restored by any effort of the patient, even with the assistance of those who supported him. There was also noticed a slight lateral curvature of the spine to the left. When placed in bed the patient was able with a little support to maintain the sitting posture, but his position was most grotesque. He sat with his legs folded up in an exaggerated tailor-fashion: the heel of the right foot was tucked up close under the pubic arch, while the concave plantar surface of the left foot was applied to the dorsum of the right. This was his favourite position. In order to gain it, however, he was obliged to use his hands to drag up his feet. When asleep he lay on his left side with his legs and thighs both drawn up, his heels touching his buttocks.

On further examination, the lower extremities were found to have diminished in bulk since 1869. The right calf measured only 9¼ in., the left 9¼ in., as compared with the former circumference of 11 in. each. The thighs had lost less in circumference, the right measuring 12 in., and the left 11¼ in., or respectively ¼ in. and 1 in. less than in 1869. The gastrocnemii muscles were fairly firm, but not so hard as formerly; they kept the feet in a state of equinism which could not be reduced. These calf muscles allowed the boy to make no movement of the foot beyond a slight extension of the foot, and a little flexion of the toes. The hamstring muscles, which were moderately large, retained the leg flexed upon the thigh. The glutei were still firm, but not hard and massive as formerly, and the lumbar muscles had also lost bulk and hardness to a similar degree. The muscles of the trunk were all much wasted. The abdomen was large and prominent, the liver was enlarged, extended three fingers' breadth below the costal arch, and caused a bulging of the right hypochondriac and epigastric regions. The organ was not tender, but smooth and elastic to the touch. The spleen was not enlarged. The chest was asymmetrical, the right side being the more capacious; the sternum was prominent, and directed towards the left, and produced a bulging of the cardiac region.

The respiratory movements were feeble everywhere, and especially so on the left side. The breath-sounds were healthy all over the chest. The area of cardiac dulness was increased laterally, and extended from a finger's breadth beyond the right edge of the sternum to half an inch beyond the left nipple line. The upper margin of dulness was at the third rib, and the apex beat at the sixth rib. A loud mitral systolic murmur was heard all over the præcordial region, was loudest half an inch above the apex-beat, and was distinctly heard in the axilla, and on the left side of the spine posteriorly. This murmur was not present when the boy was in hospital in 1869.

The muscles of the upper extremities were much wasted, and had become so feeble that he could not raise his hands to his mouth, except when his elbows rested on the bed or table. In this position he managed to feed himself. The right could be raised more than the left, and was less wasted. The right deltoid retained a moderate amount of its fibres, while the left muscle had almost completely disappeared. The hands, thin and wasted, had scarcely any power of grasping, and could only be used to play with small light toys. The right arm at its points of maximum circumference measured only 5¼ in., the forearm 5¼ in.; the left arm was slightly less than its fellow, and had less muscular power.

In comparing the lad's state as described above with that which he presented formerly, it must be borne in mind that nearly five years had elapsed, and, instead of a child of nine, the patient had become a lad of fourteen years. This no doubt accounts for the intellectual improvement exhibited. The heart-mischief which he had acquired in the interval was not referred by the parents to any distinct illness. He suffered from palpitation occasionally while in the hospital, and on one occasion had a sharp attack of congestion of his lungs with albuminuria, which, however, yielded to treatment. The digestive functions have remained good throughout; occasionally he over-ate himself, and suffered in consequence; he has retained power over his sphincters.

The boy's hearing and sight had not suffered at all during the five years' interval, and his face had lost some of the stolid expression which had previously characterised it, although it still lacked intelligence and animation. The increased mottling of the skin could hardly be referred to the progress of the disease, seeing that the mitral insufficiency offered an explanation. The temperature of the lower extremities taken in the groin and in the popliteal space and over the gastrocnemii muscles was normal. The asymmetry of the chest and the lateral curvature of the spine find an explanation in the influence of the weight of the viscera, especially the enlarged liver, on the cavities of the thorax and abdomen, which had no longer the support of healthy muscles. Sleeping, as the boy did, always on the left side, the enlarged liver pressed towards the left, and so caused the asymmetry of the chest and the lateral curvature of the spine.

When admitted, the electric sensibility of his general surface to voltaism was somewhat diminished; over the nerves it was increased, probably from the close proximity of the electrodes in consequence of the emaciation. The electro-muscular contractility was very small. To faradisation the electric sensibility was unusually small. The electric contractility varied with the size of the muscles, being greatest where the muscles remained largest—namely, on the flexor surfaces of the body generally, on the right side, and in the lower extremities. The right deltoid muscle, especially in its anterior fibres, responded to the faradaic current much better than the same muscle on the opposite side, which had almost entirely disappeared.

While the boy remained in the hospital, faradisation and voltaism were in turn tried, but had no appreciable effect in restoring the muscular power. The deltoid muscles were specially selected for observation, but in spite of the application of both forms of electricity, a month's trial of each form being made, there was no improvement in the power of raising the arm, and no increase in size of the muscles. The boy, during a four months' stay, improved in general nutrition, but, while he apparently lost no muscular power, he certainly gained none under the electrical treatment.

Birmingham.

* *Vide* woodcut in THE LANCET, May 8th, 1869.

DURING the week ending March 28, the mortality in Munich reached the extremely high figure of 52 per 1000, including no less than 20 deaths from cholera. The latter disease appears to be greatly on the increase in the town, as in the previous week it had caused only 12 deaths.

THE DISCUSSION ON MR. CAMPBELL DE MORGAN'S PAPER "ON CANCER," WITH REFERENCE TO THE CONSTITUTIONAL ORIGIN OF THE DISEASE.

BY G. C. WALLICH, M.D.,
SURGEON-MAJOR, RETIRED LIST, H.M. INDIAN ARMY.

THE highly important discussion which was elicited at two recent meetings of the Pathological Society by Mr. De Morgan's masterly paper "On Cancer" will doubtless be welcomed by the medical profession at large as replete with instruction. It will, however, prove of service in another way—namely, by showing how necessary it is to revise some of the terms by which we are in the habit of distinguishing certain diseases or classes of diseases, and the ambiguity and misleading character of which tend materially to neutralise the results of even such an ably-conducted discussion as the one now referred to. This point was noticed by Mr. De Morgan himself; and subsequently Dr. Payne dwelt upon it with some emphasis. But unfortunately, as it appears to me, Dr. Payne seemed to entertain the idea that a definition, in order to be satisfactory, must invariably combine comprehensiveness with accuracy. With deference to his high authority, I submit that we ought, at all hazards, to shun this combination when treating of such diseases as cancer, or, indeed, any of the more serious so-called "constitutional diseases." Dr. Payne says: "I presume one great element in the meaning of the word 'constitutional' is this: an injury or change in which the general disposition of the body has a very large share, and the amount of external cause—injury, irritation, and so on—has a comparatively small share. ..... That is one sense in which certainly the term might be used, and that *covers both those constitutional diseases which are acquired and those which are inherited or congenital.* That is to say, if a person have received into his body the poison of syphilis from any source, any injuries or irritation to which he may be exposed will produce a different result from that which would be produced in the case of a healthy person. And the same if he have inherited any predisposition."

But, surely, if there be one character which ought to be pre-eminently accepted as distinguishing true constitutional disease, it is the capability of hereditary transmission from parent to offspring; that is to say, of being perpetuated *by the generative act.* For it is obvious that a disease may originate and become constitutional in an individual, and yet not be capable of being transmitted by the generative act. In the former case (by far the most important, perhaps, inasmuch as its real history and nature are more likely to be overlooked) there exists the inherited congenital predisposition to a given disease, which dates of course from the earliest conceivable period of the individual's existence. In the latter, there may not have been any predisposition present in the earliest stage of the individual's existence; consequently, should any specific predisposition manifest itself at a subsequent period, it may become either temporarily or permanently constitutional; but it does not by any means necessarily follow that it has not been inherited.

The extreme importance of the distinction here drawn will become apparent when I point out that it furnishes not only a well-defined test for constitutionally inherited disease, but rigidly circumscribes the list of those diseases which may be (according to the vague acceptation of the term at present sanctioned) and those which undoubtedly ought not to be regarded as "blood diseases." For assuming, as the preponderance of authority would seem to warrant, that cancer, in a very large proportion of the cases in which its history admits of being traced, is an inherited disease, we are thus furnished with a crucial test, by means of which we can pronounce with certainty that the predisposition to cancer has been strictly inherited, when transmitted from the side of the male parent; but that, being inherited from the male side, it cannot, by any legitimate reasoning, be considered a "blood disease," if that very ambiguous expression is intended to imply a necessary connexion between the morbific material and the normal constituents of the blood.

It is to be presumed there are few persons who will venture, in the present state of physical science, to advocate the doctrine that "malaria" or "blood poison," or, indeed, any communicable morbid condition, can be *immaterial.* Every new fact in physics tends to a diametrically opposite conclusion. It may be perfectly true that hitherto the subtle nature of the morbific atom has altogether transcended all the means at our command for rendering it visible or traceable either by the microscope or chemical reagents. Should the difficulty be hereafter overcome, the chances are it will be by the agency of that subtlest of all our appliances, the spectroscope. But even assuming that it should continue to baffle us, according to all known laws and analogy in nature, we should be, and indeed already are, justified in regarding as an established fact, upon which we may with safety erect any hypothesis, that in speaking of malaria or contagion or blood poison, we are speaking of actual matter, in a state of inconceivably minute subdivision no doubt, but nevertheless atoms of matter. I am rejoiced at being able to quote the following explicit opinion on this question which fell from the lips of Sir James Paget:—"We cannot talk of conditions apart from the materials in which the conditions exist; we may doubt whether it be a fluid or a germ of any degree of minuteness, but at least it must be something material."

But the distinction I am anxious to draw would be incomplete, and might, to a certain extent, be delusive, were the proposed test not rendered still more severe and exhaustive. Of course the morbid predisposition may be transmissible either from the male or female parent to the offspring. In both cases it would be strictly inherited. But the point is this, that only in one of the two cases—namely, when the predisposition is inherited from the male parent, would the crucial test be afforded of the congenital diathesis being capable of transmission in a fluid wholly separate and distinct from the blood; in other words, of its not being what is usually called a blood disease; or, what amounts to the same thing, being something more than a blood disease.

Sir William Gull, although evidently disinclined to lend the full force of his high authority to the "constitutional" doctrine as regards the origin of cancer, felt himself constrained to admit that, "if we carry our minds to the very beginning of the impregnated ovum, and say that the mother or the father is to convey to this ovum a cancerous tendency, that must lie outside the blood anyhow, for there is no blood then or there; then the constitutional question must have relation to the constituents of the ovum *at that time.*" But here, it will be seen, the very essence of the distinction I wish to establish is altogether lost sight of. It is by no means sufficient that the inherited tendency should be traced back "to the very beginning of the impregnated ovum." For, "*at that time,*" it may have been acquired by absorption from the blood of the mother; and if the cancerous diathesis has been known to be present on the maternal side, whereas it has been absent on the paternal, it is quite clear that, at *any* period anterior to impregnation, every ovisac, and indeed the entire ovary, and every organ and tissue of the mother's body, must have been impregnated with the morbific taint, though certain portions of her frame are undoubtedly more prone to become the seats of its active development than others, just as certain peculiarities of soil or season are more fitted than others to encourage and foster the growth of certain vegetable structures, the germs of which can, nevertheless, be proved to be universally distributed over a given area of country. But, *per se*, the ability to trace back the inherited tendency "to the very beginning of the impregnated ovum" (supposing it were possible so to trace it), would only suffice to prove inheritance, but could not prove from which side it was inherited, or define the date from which the tendency was imported to the ovule. It is, moreover, impossible to arrive at any useful practical conclusion so long as we stop at this point. Fortunately by carrying our scrutiny a step further we do reach solid ground, inasmuch as the moment we trace back the cancerous tendency to the paternal side, it being known to be entirely absent on the maternal, we are at once in a position not only to say it was not communicated through the blood, and cannot therefore rank as a "blood-poison" in the usual acceptation of the term, but

that it must be regarded as capable of pervading every tissue and fluid in the human frame. And, lastly, assuming my view to be correct, it follows that the question of "localisation" is narrowed within much more manageable bounds than at present, for it would surely be irrational, in the face of the evidence thus afforded, to assert that localisation can be otherwise than a secondary result in point of time, though I can scarcely agree with Sir James Paget in regarding it as less important than the primary establishment of the morbific predisposition. No one can dispute the views so admirably propounded by Sir James Paget in the sentences I am about to quote at the close of these observations. But, on the other hand, I think he would himself admit, under this new aspect of the matter, that having established as a fact that the blood is not necessarily the fluid by which the morbific fluid is disseminated, we are, at all events, very much more likely to be able to hit upon some effective constitutional remedy or palliative treatment.

It may perhaps be urged that, admitting, in the case of the *unimpregnated* ovisac, that the morbific condition may already have been communicated to it, through the lymphatic system, from the blood of the mother, that condition, even when communicated to the ovum of the female through the seminal fluid of the male, is, after all, nothing more nor less than a modification of the same process; the disease-germ being in the first instance eliminated from the blood of the male, and then made to form a component part of the seminal fluid, which in its turn communicates the taint to the ovum it impregnates. And no doubt this is perfectly true. The process is analogous; nay, it may be identical. But there is this difference in the nature of the knowledge obtained by carrying our scrutiny as far back as the male element in these cases,—that it enables us with absolute certainty to assume that the morbific material has been able to exist entirely "outside the blood" and independently of it. This, I repeat, we could not assume with any certainty when tracing its origin back solely within the body of the mother. Surely this is a step gained; for who would not rejoice at the fulfilment of Sir James Paget's anticipations when he says—"If we have any hope at all of being able to cure cancer, it must be in the study of it as a constitutional disease; for, as far as therapeutics have as yet proceeded, the whole power of therapeutics is that of constitutional remedies against constitutional diseases. Therefore I repeat the hope that some day there may come to us a remedy as little expected as mercury must have been before it was introduced for syphilis. But not less sure than mercury may be the cure even of inherited disease; for mercury clearly cures inherited disease of syphilis to a first and even to a second generation."

Herne Bay.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF CHRONIC FARCY.

(Under the care of Mr. THOMAS SMITH.)

THE following case, for the notes of which we are indebted to Mr. Lawrence Cripps, late house-surgeon, presents several points of speculative and clinical interest. The history of the disease, the incubation period, the prodromal, the developed, and the final stages, were such as are not unfrequently seen in chronic farcy in the human being. The period of incubation appears to have been about two weeks, and the prodromal stage one month; after which suppurations occurred, first in the scalp, then in the thigh; subsequently diffuse swelling showed itself in the left foot and leg, accompanied by the presence of gangrenous patches in the skin, and followed by marasmus, delirium, and death. But the most interesting feature of the case is the means by which the patient was poisoned. The only apparent facts on which we can base any opinion are, that the unfortunate man had recently had charge of two glandered horses, both of which died, and that on one occasion one of these diseased animals had, in breathing into his face, emitted some fetid matter which almost immediately induced vomiting. There is no evidence of local contagion, or of inoculation of the hands, the conjunctivæ, or the mucous membranes of the nose or of the mouth, all of which parts seem to have been unaffected. Must we, therefore, conclude that the poisonous material was in some way absorbed by the mucous membrane of the respiratory or the gastro-intestinal tract, giving rise to constitutional infection without local reaction?—or shall we regard the scalp as having been the point of primary inoculation, from which the general system was subsequently affected? Whatever may be the theoretical objections against the possibility of a primary constitutional infection, it would appear that in the present instance, at least, it is the most probable mode of origin of the disease. The abscess on the scalp bore the general characters of a secondary lesion, and did not show itself till at least six weeks after exposure, or four weeks after the first prodromal manifestations; whereas in genuine cases of inoculation there is generally a local reaction in the affected part, either as an inflammation and suppuration or as a swelling and inflammation of the neighbouring absorbent vessels, with or without implication of the adjoining lymphatic glands.

G. L——, aged thirty-six, on Dec. 1st, 1872, applied at the hospital and gave the following history. A month ago, after returning from work, he was seized with a rigor, and suffered all the evening from severe headache. He was better on the following day, and was able to do his work, at which he continued up to the time of his application at the hospital. Since the date of the rigor he had felt unwell, sleeping badly, sweating at night, had lost his appetite, and suffered rheumatic pains in the joints. At the time of application he had a somewhat sallow complexion, and was greatly depressed in spirits. On the upper and back part of the head was a small swelling, slightly inflamed and very painful. No fluctuation could be detected. Quinine was given internally, and a poultice applied to the inflamed part. On Dec. 10th the swelling had increased to the size of a walnut. On being opened, about half an ounce of puriform fluid escaped. The constitutional state was unaltered.

On Dec. 27th the patient was admitted into hospital. The abscess, which had been opened on the 10th, showed no tendency towards healing, the edges being swollen and brawny, and the wound exuding a thin offensive discharge. Another abscess similar to the last had formed on the upper and outer part of the left thigh. The man had lost flesh considerably, and complained of almost constant pain in the joints, and was very weak. His complexion was of a sallow, earthy colour, almost amounting to jaundice. The chief symptom, however, was extreme despondency, the patient believing that he was going to die. In answer to questions he stated, for the first time, that ten weeks ago he had the charge of two glandered horses, both of which died. He had, however, no recollection of having poisoned his fingers or of having been inoculated through any scratch or abrasion; but he well remembers that on one occasion, when one of the animals breathed into his face, the stench was so overpowering that it immediately caused him to vomit.

Jan. 9th, 1873.—From the date of his admission to the present time the temperature has ranged from 101·4° to 103·5° F., the pulse being always over 100. On the 5th, 6th, and 8th he had well-marked rigors. The abscess on the head remains in much the same condition as when admitted, while that on the thigh has broken down into a malignant-looking ulcer two inches in diameter. Another small abscess has formed on the inner side of the same leg. Since admission has been taking seven-grain doses of iodide of potassium with quinine three times a day. The hyposulphite of magnesia was also given in small doses.

The temperature on the 9th was 103·5°; 10th, 103°; 11th, 102·5°; 13th, 101·8°; 14th, 100°.

15th.—Temperature 98°; pulse 100. Bowels relaxed; great thirst; pain in the chest; cough with small quantity of offensive rust-coloured sputa. The emaciation has in-

creased rapidly during the last few days; the skin is deeply jaundiced; the dorsum of the left foot red and much swollen, with two or three dusky spots threatening gangrene.

From the 15th to the 18th the temperature rose from 98° to 103°, the whole limb becoming immensely swollen, the skin in parts being gangrenous. The patient was delirious at night, and death occurred on the 19th.

Autopsy, twelve hours after death.—From the state of the body it was not possible to make a very complete examination. Lungs: Lower lobes intensely congested and œdematous, with two or three small dark patches with suppurating centres. Bronchi contained a large quantity of thick semi-purulent fluid, which was very offensive. Heart normal. No abscesses in liver. Femoral vein, in the upper part, contained a large decolorised clot filling its canal.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

CASE OF PTOSIS; COMPLETE PARALYSIS OF INTERNAL SUPERIOR AND INFERIOR RECTI MUSCLES TREATED BY FARADAIC ELECTRICITY.

(Under the care of Mr. JABEZ HOGG.)

SARAH A——, aged thirty-eight, admitted Oct. 19th, 1873, a married woman, and has had five children, four of whom are living and very healthy. She herself appears a fairly nourished woman. Her husband has suffered from rheumatism for the last eleven years, and has been an inmate of King's College Hospital under treatment for ulcers in the legs. No history of syphilis; nor is there loss of tissue of the fauces. There are no nodes or periosteal pains. Three days before she made application for admission (Oct. 16th) she appeared to be quite well, having got up in the morning with no evidence of ptosis or impaired vision. Later on in the day she noticed that the right lid suddenly drooped, and all her endeavours to raise it were useless.

Oct. 20th.—The right lid is now completely closed, and cannot be raised or moved. The patient feels as if a heavy weight were pressing on it. When forcibly raised, the lid falls slowly, and resumes its closed position solely by its own weight. In the left eye the movements of the lids and muscles are perfect. The affected eyeball is somewhat abducted by the action of the external rectus, and cannot be drawn inwards beyond the median line, neither can it be moved upwards or downwards. There is also crossed diplopia. She states that on the day previous to the attack she had been exposed to a heavy storm of rain, and her feet and clothes got very wet. She took a stiff glass of hot rum-and-water, and did not feel any ill effects, as far as could be indicated by any catarrhal symptoms.

She was placed on full diet on her admission, and ordered one drachm of the syrup of iodide of iron, and half an ounce of cod-liver oil three times a day. Galvanism to be applied to the inner angle of the eye and the temple for ten minutes daily.

22nd.—She had a blister applied behind the right ear.

24th.—She states that she has suffered from continual headache for nearly two months, and has been deaf in the right ear for two years. In the left ear deafness commenced two months ago. She can hear the ticking of a watch at three inches distance on the left side. The lid can be raised a little, and there seems a little power in the external rectus.

Nov. 4th.—No change whatever in the condition of the recti muscles, although the patient feels stronger. She was ordered ten-grain doses of iodide of potassium, with one drachm of tincture of chinchona, three times a day.

15th.—She remains much in the same condition.

17th.—One of Stöhrer's batteries was used for the first time. She can now raise the lid a little better. An ophthalmoscopic examination shows the case to be one of anæsthesia retinæ. There is no trace of neuritis.

27th.—The lid can now be easily raised, and there is some power over the internal rectus.

Dec. 2nd.—She is much better in every respect, and can now draw the eye inwards; but, owing to the stronger action of the external rectus, she cannot keep the eye at present in the median line. There is also some action exhibited by the inferior rectus.

4th.—The hearing is very much improved.

6th.—Has complained of a good deal of headache for the past two days, increasing in severity during the night. A draught, consisting of three drops of tincture of aconite and ten grains of chloral hydrate, was ordered to be taken at bedtime, and it afforded considerable relief.

The faradisation was continued up to the 12th for about fifteen minutes daily, when the recti muscles had entirely resumed their normal action; and on the 13th the patient left the hospital quite well.

UNIVERSITY COLLEGE HOSPITAL.

A CASE SHOWING THE DURATION OF PREGNANCY.

THE following case, which has recently come under the observation of Mr. William Murrell, obstetric assistant, demonstrates the duration of pregnancy. The objections which usually apply to the statements of pregnant single women do not seem to obtain in the present instance, the date of conception having been accurately fixed by several corroborative circumstances. It will be seen that a period of 280 days elapsed between the alleged seduction and the birth of the child, thus giving the duration most commonly accepted by obstetricians and medico-legists. It is important to note that the pregnancy is affirmed to have resulted from a single intercourse.

E. F——, aged twenty-five, a dressmaker, went on Nov. 21st, 1872, on a visit to her sister in the country. She there met, and was seduced by, a young man to whom she had been formerly engaged. The patient stated most positively that this was the only occasion on which she ever had sexual intercourse. She had not met her lover for many months before this occurrence, and did not again see him until she "swore the child against him" some weeks after her confinement. She can positively fix the date by certain changes which occurred in her family arrangements on that day, and also by an entry made in her pocket-book on her return home. The patient distinctly remembers that she had ceased menstruating on the day previous to that on which she was seduced. She quickened on March 7th, 1873, 106 days, or fifteen weeks and a day, from the date of intercourse. At the time of her confinement she was a maternity patient at this hospital, and, on reference to the records of the case, it appears that delivery took place on August 30th, after a labour of forty hours. From this it is seen that gestation lasted 280 days, or rather that this was the period which elapsed between her seduction and delivery.

DORSET COUNTY INFIRMARY.

LARGE SCIRRHUS OF LEFT MAMMA.

(Under the care of Mr. TUDOR.)

FOR the following notes we are indebted to Dr. Alfred Holles, house-surgeon.

A. S——, aged sixty-three, married, was admitted in Nov. 1872, with a large, painful, irregularly oval tumour in the left breast. When first noticed, four years ago, it was the size of a walnut. For three years it remained quiescent, being painful only occasionally, but for the last twelve months it has been increasing very rapidly in size, and causes extreme pain. The patient's mother died at the age of seventy-two, with carcinoma mammæ, having had eight children. One daughter died of phthisis pulmonalis, and one of some scrofulous affection. The patient has had two attacks of acute rheumatism, and there is a loud systolic bellows-murmur at the left apex of the heart. She has led a regular and very respectable married life, and is anxious to have the tumour removed from her breast.

Dec. 3rd.—This morning patient was placed under the influence of chloroform, which was well borne, and Mr. Tudor removed the diseased mass. It was found to be slightly adherent to the structures beneath at its upper and outer base, and a small gland was felt to be enlarged very high up in the axilla. The arteries were secured with carbolised catgut ligatures; the raw surfaces were sponged over with a solution of chloride of zinc, forty grains to the ounce, and the flaps were adjusted with silver-wire sutures, a small piece of drainage tube being fixed in the most dependent corner of the wound. Lint soaked in carbolic oil (one in twenty-four) covered the line of incision, and over

this a layer of carbolised tow was fixed by a bandage. The diseased mass removed weighed exactly 1 lb.

7th.—Everything has progressed thoroughly well; the wound has healed by first intention, without the formation of a drop of pus. It was dressed daily in the manner as described after the operation. The wire sutures were removed to-day, and the piece of drainage-tube was pushed out by granulations.

12th.—For the last day or two there has been a slight serous discharge from the neighbourhood of the drainage-tube, but it has now ceased.

29th.—Got up to-day, feeling quite well.

Jan. 16th.—Discharged cured.

This patient was kept under observation, but there was no attempt at return of the disease in any part of the body saving in the left axilla, where the same gland above referred to had, on July 1st, 1873, increased with another to the size of a large Spanish walnut. The patient was accordingly readmitted on this day, and without any difficulty both these enlarged glands were removed. The recovery was somewhat retarded by a superficial excoriation produced by the too lengthened application of the spirits of turpentine as an hæmostatic, but in three weeks she was quite well, and was discharged on July 24th, and up to the present date there is nowhere any trace of a further return of the disease.

HÔPITAL NECKER.

NOTES OF A VISIT TO THE WARDS OF DR CHAUFFARD.

Cases of Saturnine Intoxication.—In the first case there were symptoms of profound poison by lead: general anæsthesia, dyspepsia with fever, leaden line of the gums, &c. A feature of great interest in this case was that there existed symmetrical periostitis of both tibiæ and swelling of the ganglia of the groins, without there being the slightest traces of syphilis, and it was a question whether there was any syphilis in the case. The treatment was that generally followed by Dr. Chauffard—strong purgatives (one ounce of castor oil with three drops of croton oil); sulphurous baths; sulphuric lemonade of the French Codex. The second case was remarkable for the head symptoms presented by the patient, who had a fit of saturnine epilepsy; otherwise there existed the usual symptoms of profound poisoning by lead—marked general anæsthesia, lead-line of the gums, paralysis of the extensors, lead-colic, &c. Same treatment as above.

Adynamic Pneumonia in a Male Adult.—The patient, aged about fifty, was greatly benefited by stimulating treatment, and by the employment of musk combined with chinchona. Large doses of alcohol were first administered (five ounces daily), after which two drachms of extract of bark and one drachm of tincture of musk were given every day. The whole of the left lung was involved, and there was marked bruit de souffle. The left side of the chest was successively covered with large blisters.

Two Cases of Acute Articular Rheumatism.—One of the cases was attended by an outbreak of general urticaria, with considerable itching. This was the second attack of rheumatism, and the first one, which occurred two years ago, was accompanied by a similar outbreak of urticaria. In both these cases fever and pain had disappeared at the time of our visit. Both cases were complicated by endo-pericarditis. Dr. Chauffard's favourite prescription when digitalis is indicated in such cases is thirty grains of an infusion given in ptisan, a tablespoonful every hour. The effects on the circulation are sometimes very powerful. Occasionally the pulse falls to 30. At the same time the cupping-glass and scarificator are applied to the situation of the heart, and are followed by the application of blisters.

Cases of Locomotor Ataxy.—An interesting collection of specimens of the disease. Amongst the therapeutical means usually employed by Dr. Chauffard are the following: nitrate of silver (one-fifth of a grain daily in a pill with mica panis), valerian, vapour baths, passive exercise along the spine, and application to the spine of the point of a white-hot iron. In one case which we saw there were twelve recent spots of cauterisation along either side of the spine. The man complained of much pain, and was lying on his stomach. This energetic revulsive means was stated to be very successful at the outset of the disease during the congestive stage.

Medical Societies.

EPIDEMIOLOGICAL SOCIETY.

WEDNESDAY, MARCH 11TH, 1874.

DR. GAVIN MILROY, VICE-PRESIDENT, IN THE CHAIR.

INSPECTOR-GENERAL ROBERT LAWSON, F.R.C.S., read a paper

ON ERRORS IN THE USUAL METHOD OF INVESTIGATING THE CAUSES OF EPIDEMICS.

The divergence of view among epidemiologists as to the causes of certain diseases which spread widely from time to time is attributable to faulty methods of investigation,—to error in the estimate of some of the data, or in the reasoning based upon them. The different headings under which the subject was treated have already been published in THE LANCET of March 7th, p. 349. The application of the inductive method to epidemiological inquiries is the only clue to lead through the chaos of opinion that obscures many of the subjects of it. Investigation as to the causation of disease involves fewer constants and a greater number of variables than similar operations in physical science; hence a stricter adherence to the inductive method is necessary. Probabilities and possibilities without the basis of certainty should not be set forth as well-established truths. A certain combination of antecedents is made into an hypothetical cause of disease; as often as the disease is observed to follow upon such a combination positive evidence of the hypothesis is claimed; but should the disease not follow such a combination in some instance, this is looked upon as negative evidence, and considered as of less value. But the hypothesis may have omitted some essential factor, or have included some non-essential; what these are may be elicited by comparing the antecedents both in the positive and negative instances. The one is not less important than the other, and cannot be neglected if scientific accuracy is desired. Some general epidemic cause for the spread of a disease so contagious as small-pox beyond the introduction of the virus is indicated by the facts of the late epidemic of it in England, as well as by those of Indian experience. The virus of small-pox can never be entirely absent from London, yet epidemics of it only occur about once in four years. The presence of some factor of occasional operation is, therefore, concerned in their development. The mortality from small-pox in London began to increase in the third quarter of 1870, and attained its maximum in the second quarter of 1871. At the same time, the deaths from this disease began to increase in England generally, and in Scotland. There was a severe epidemic of it in Holland in the latter part of 1870. Brussels, Berlin, Vienna, and other parts of Germany and France, suffered severely at the same time. Philadelphia and New York were affected in the course of 1871. Effects so extensively diffused can only be attributed to causes of equally extensive operation. It may be objected to such an "epidemic cause" that every place within its sphere of operation should manifest its influence; but we are not justified in attempting to fix the limits, or mode, of the operations of nature by *à priori* reasoning, but must try to arrive at a just conception of these from the phenomena present. In England during this epidemic many places showed almost an entire immunity from small-pox, though the "epidemic constitution" must have embraced the whole; this feature is observed in every epidemic and in every country, and must, therefore, be accepted as the true mode in which such a general cause operates. In inquiring into the causation of certain diseases, it becomes necessary to determine whether they were introduced from elsewhere, or arose from the action of causes at the place where they appeared. This is to be effected by eliminating the influence of local causes, but it is not often that we can ensure its exclusion. This seems to be secured for us in the case of H.M.S. *Bristol* arriving at Sierra Leone from England, with a crew of 535 men, in December, 1865, soon after yellow fever had broken out in the receiving ship *Isis*, stationed there. The *Bristol* remained at anchor five miles from the coast, and 4 officers and 112 men were sent, on the 28th and 29th of December, to

assist in removing the *Isis* to a healthier anchorage. They did not stay the night, but returned to the *Bristol*. Fever commenced among the men of this party on the 31st of December, and by the 6th of January 37 were attacked, of whom 21 died from the 3rd to the 18th of January, and 2 subsequently at Ascension. Two officers and one man not of the working party who had been on board the *Isis* were also attacked, but none others of the crew of 400 were seized, not even one of the 24 men employed as nurses to the sick, nor either of the 5 medical officers who were all in close attendance upon the sick. These cases were of malignant yellow fever, with characteristic kidney affection, and cannot be classed as merely malarial non-contagious fever. That they were not contagious was because no local causes existed on the ship on which they occurred; and where these are excluded, the result is uniformly the same. Sporadic cholera, generally without rice-water purgings and suppression of urine, sometimes has both these characters, yet does not become epidemic. Until it can be shown what essential difference separates these cases from those met with in an epidemic, no theory as to the cause of the latter which does not also account for the former can be considered as scientifically correct or as entitled to confidence.

The PRESIDENT.—The questions taken up by Mr. Lawson lie at the very root of all investigations in epidemiology. Among the differences remaining to be settled among us is one raised by our distinguished member from India, Dr. Cuningham, who brings forward evidence to show that there is not sufficient ground for our attributing cholera to the excremental pollution of water.

Mr. NETTEN RADCLIFFE differed widely from Mr. LAWSON in the view he took of induction as applied to epidemiology. Mr. Lawson appeared to hold that some higher form of induction than the induction of probability was applicable to epidemiology. He spoke of inference ("only an inference") and of probability ("merely probable") as if "inference" and "probability" were not of the essence of inductive reasoning as applied to the natural sciences. Then, again, Mr. Lawson spoke of "theory" and "hypothesis" as if they were something objectionable, instead of being, as Mr. Radcliffe believed, necessary parts and instruments of research. Mr. Radcliffe preferred to be guided in this respect by the experience which had been gained in pursuit of the other natural sciences; and he pointed out how the theory of the infectiveness of the discharges of persons suffering from cholera met the scientific requirements of our present knowledge, and proved an important instrument of research, facilitating further study. Mr. Radcliffe did not quite follow Mr. Lawson's observations on positive and negative evidence, unless they meant other than a truism. But in the example of negative evidence referred to by Dr. Milroy,—namely, the evidence against certain commonly received conclusions as to cholera given in Dr. Cuningham's recent report,—he regretted to find that the question of the quality of this advice did not seem to have presented itself to Dr. Milroy's mind. Yet it appeared to him to be obvious that this was the first consideration before conclusions could be accepted, which, according to Dr. Cuningham himself, did away with the principal etiological researches of the last half century. Mr. Lawson's proposition as to the relationship between "sporadic cholera" and "Asiatic cholera," Mr. Radcliffe held begged the whole question. It was not necessary to suspend our researches into the conditions under which the two forms of disease were developed until pathology had determined their precise relationship.

Dr. BUCHANAN said that negative evidence meant "evidence to the contrary," and this was not to be confounded with absence of all evidence. We could very well dispense with the words "positive and negative" altogether, as applied to evidence. We used these terms to express, not two opposite things, but one single theory—namely, the amount of belief that was or ought to be commanded by the subject. Belief had often, for want of more solid basis, to rest on tradition, or on what was called general principles that had themselves no secure foundation. But where figures could be employed, where the facts were numerous, and notably in epidemiology, they were now-a-days habitually appealed to for what was called positive or negative evidence. Now, if these terms could be set aside, and if, in place of thinking of opposites, we could realise the idea simply of *more* and *less* in our reasons for belief, the way would be cleared for a further use of figures than was yet at all customary in medical researches, and even the amount of evidence bearing upon a given belief might be expressed numerically. What was called "positive" evidence was not to be expressed by a *plus sign*, and "negative" evidence by a *minus* sign. Positive evidence meant only a higher degree of probability from even chances ($\frac{1}{2}$) to affirmation (1). Negative evidence meant only a lower degree of probability from even chances ($\frac{1}{2}$) to denial (0). He was in hopes that evidences, as to causation more particularly, might hereafter come to be dealt with by taking a particular phenomenon and investigating the chances of its occurrence under common conditions, and then comparing these chances with the observed occurrence under differentiated conditions. In reference to some investigations in which this line had been followed, caution was necessary, lest mathematical processes should give a spurious appearance of accuracy, unless applied with the utmost strictness as to logical premises. As to what had been called "epidemic constitution," a something supposed to affect the prevalence of disease in communities, before conceding the existence of such a thing allowance ought to be made for a number of better understood conditions. When measles, introduced into a remote island, attacks every inhabitant under the age of thirty years, nobody would talk of this "epidemic constitution" after they had heard the story that thirty years before there had been a similar introduction with similar results, and that since then there had been no importation of measles. And similarly with regard to the epidemic of small-pox now adduced in illustration of this so-called "constitution," too little account appeared to him to have been taken of the accumulation of susceptible individuals in the intervals of epidemics. He would direct attention to this consideration as furnishing ample reason why infectious diseases should, after a period of quiescence, attack an increasing number of people until epidemic proportions were attained. Fewer susceptible persons were left after a general epidemic; more persons would, for various reasons, be susceptible a few years later—new people would have been born, new people imported, old personal immunities have changed, and, in the case of small-pox, a new accumulation of unvaccinated persons have grown up. The supposed "epidemic constitution" could only arise for consideration after the influence of well-known circumstances, like those indicated, had been measured and allowed for.

Inspector-General LAWSON, in reply, said the opinion of Dr. Buchanan that the diffusion of small-pox in 1870 in this country was chiefly dependent on increased susceptibility, aided, as another speaker had remarked, by a large importation from Paris previous to the siege, failed to account for the prevalence of the disease in the South of France early in 1870; for its extensive spread and nearly simultaneous increase in the British islands, as well as elsewhere, at the end of 1870 and early in 1871; and for the hæmorrhagic form of it being as widely diffused. The cause of this must be of equally extended operation, and this he called "the epidemic constitution." Mr. Radcliffe thought the precision as to facts and reasoning advocated in the paper unattainable in the study of epidemics, and, instead, was inclined to fall back on the probability of certain sequences being connected as cause and effect, as obtained by submitting the data to the calculus of probabilities. But mathematics cannot be applied to this purpose until some hypothesis has been formed as to the peculiar relation to be investigated; and, if the hypothesis be erroneous, the result will be equally so, and will only lead to further error. Hypothesis is useful only so far as it agrees with facts; if new facts come up, or more exact reasoning upon those already known show the hypothesis to be faulty, it must be modified, if not abandoned. Why should cases of cholera met with during an epidemic, and those that occur sporadically, be regarded only in relation to the circumstances under which they appear? He did not wish the researches into those conditions suspended, but rather that researches should not be confined to those conditions, and that we should not be content to examine them in those respects only. If the subject was to be prosecuted in a scientific spirit, all facts of the same nature, however they may vary in their accessory circumstances, must be included in the induction; and hitherto every attempt to show that the sporadic malignant cases are specifically different from those which occur in an epidemic had completely failed.

Reviews and Notices of Books.

Longevity; the means of Prolonging Life after Middle Age. By JOHN GARDNER, M.D. pp. 168. London: Henry S. King and Co. 1874.

THIS little *brochure* is a running commentary on the observation of a French writer, that men "do not usually die: they kill themselves." Though the argument on which Flourens based his doctrine, that the normal age of man is one hundred years, is very unsatisfactory, we believe his conclusion is correct, and there can be little doubt that, under favourable conditions, the average longevity of the whole human race might be greatly increased beyond its present amount. The age of commencing decline varies, as all must have noticed, with the individual, his habits, mode of life, and hereditary predisposition, exercising a powerful influence on the period at which a decadence of the mental and bodily powers commences. Dr. Gardner places this period at the age of sixty-three, which corresponds to the grand climacteric of the older writers, and is supported by general observation. By care and attention to minor ailments, as soon as they are felt, the duration of life might in many instances be greatly extended. But, in point of fact, most men at this period know fully well what are the injurious influences telling upon them, and would willingly adopt many of Dr. Gardner's suggestions, the real difficulty being that circumstances will not admit of it. In many instances, especially in gentlemen practising at the bar and in members of our own profession, a man is only just reaping at sixty the rewards of a long period of exertion and uphill work, and the expenses of a rising family are then very large, compelling him to undertake work which is incompatible with sufficient exercise, regular meals, and other measures of general hygiene which everyone can recommend but which few practise.

Some of Dr. Gardner's suggestions strike us as singular, and to require the confirmation of experience. For instance, he recommends not merely the use of the softest and purest water supplied by nature, but absolute abstinence from any water except it be distilled; the vapidity of which he declares can be removed by salinating it with carbonic acid gas; and he further proposes that this should be drunk at a temperature of 120° F., as at this heat it promotes the digestion and assimilation of food, and supersedes the use of aperient medicine, whilst it will equally correct a disposition to diarrhœa. Will any of our readers make trial of it?

Dr. Gardner observes (p. 90) that the "very name of the winter cherry, as well as its use as a remedy, was forgotten until I gave a brief account of it in 'Household Medicine' in 1862. Since then it has been in a few instances employed, and found to deserve its ancient reputation" as a remedy for gout. In regard to this, we may state that, whatever may be the case in England, where, we must admit, it is rarely prescribed, it is well known in France and Germany; in fact, it is a popular diuretic in Alsace. We should like to ask Dr. Gardner on what grounds he includes the Thapsus verbascum, or great Mullein, amongst the narcotics. Its leaves—the "lambs' lugs" of Yorkshire farmers—are mucilaginous, and perhaps slightly bitter and astringent, but we never heard of any narcotic property being attributed to them.

We are bound to say that in general Dr. Gardner's directions are sensible enough and founded on good principles, and that if the book be intended for the public, as it appears to be, the advice given is such that any man in moderate health might follow it with advantage, whilst no prescription or other claptrap is introduced which might savour of quackery.

Galvano-Therapeutics. A Report made to the Illinois State Medical Society. Philadelphia: Lindsay and Blakiston. 1873.

PUBLISHED anonymously, this report would appear from an advertisement on the flyleaf to be written by a Dr. Prince. It glances briefly at the treatment of various morbid states by the constant current, from lumbago to elephantiasis, and from chronic ophthalmia to stricture of the urethra. Of the various diseases instances are recorded which have come under treatment, and instances of failure are given with apparent candour. An attempt is made to explain the supposed influence of the current in each case on physical and physiological principles. The effects are, however, in many cases much too doubtful to make the very theoretical explanations worth the space devoted to them. In some of the examples given of the curative effect of the battery, as is the case with most writers on the subject, other simultaneous treatment is not supposed to interfere with the value of the evidence of the influence of electricity. For instance, a married woman, aged thirty, suffered for a considerable time from headache and dimness of vision. Several applications were made at intervals of two or three days, the positive pole being applied to the back of the neck, the negative to the hypogastrium. Very considerable improvement was noticed after the first sitting, and after the last the improvement remained permanent. *Citrate of iron and quinia, five grains three times a day, was prescribed as a tonic.*

One of the best portions of the report is that treating of the surgical applications of the battery. A ganglion on the wrist was treated thus (p. 43): A steel cambric needle was made to transfix the tumour, and was connected with the negative electrode; a sponge held in the hand was connected with the positive. A current of 100 cells was allowed to pass for one minute, producing intense pain, and the needle was withdrawn. There was a manifest immediate softening of the little tumour, and a fortnight afterwards the surface was entirely smooth. There is no mention of the electrolytic treatment of aneurism. In one or two recurrent tumours, the exact nature of which is not evident, after removal by the knife, the application of the current to the wound seems to have prevented a threatened return. Several cases are detailed of stricture of the urethra treated successfully by making a steel bougie the negative pole of a battery, the positive being applied to the perineum. Stricture, before impassable, yielded to the treatment, the *modus operandi* of which is said to be the "solvent action of alkalies and disintegrating effects of diffused hydrogen, causing plastic deposits to yield more readily to mechanical force." The treatment, however, producing as it does much local irritation, is not without danger.

Unsettled Questions of Political Economy. By J. S. MILL. London: Longmans.

PROBABLY if the late Mr. Mill had lived to superintend the re-issue of these early essays, he would have prefaced them with some introductory remarks as to their direct bearing on matters agitated at the present time. As it is, they appear as they were first published in 1844—the essays themselves were written in 1829 and 1830—a sort of forerunner of his standard work upon the science with which they deal only in part. But the principles of political economy have known no essential change since Ricardo first placed them on a settled basis, and the logical sequence of Mr. Mill's ideas and the transparent lucidity of his style are just as profitable to the student now as they were thirty years ago. The essays are five in number—the last treating of the definition of political economy and the proper method

of its investigation; the first and second of the laws of interchange and the influence of consumption on production; the third and fourth of the right meaning of the terms "productive" and "unproductive," "interest" and "profits." The last of the essays gives the key-note to the whole. Political economy is a science, not an art, and, as such, to be investigated by the *à priori* method—that is, as Mr. Mill explains himself, not what is sometimes understood by the phrase, but by a mixed process of induction and ratiocination, taking well into account disturbing causes, and having for its practical aim the clearing of principles from the mists that often shroud them, and the substitution of precise definitions for the vague terms often employed. This principle is kept in view throughout, while at the same time several interesting practical questions are raised more or less incidentally. Thus, in the essay on interchange, although a staunch free-trader, and maintaining protection duties to be wholly pernicious, Mr. Mill sees no reason why duties which do not operate as protective, nor affect the necessaries of life or the materials of production, should not be kept up solely for revenue in the case of nations which do not trade with us on terms of perfect reciprocity. Again, he points out that as that country is most advantageously situated whose articles are in universal demand, and of such a kind that the demand for them increases as the price falls, our trade with our colonies and with countries chiefly producing raw materials is less advantageous to us than our trade with the continent of Europe. Under the head of consumption, again, he deals with the question of absenteeism and the comparative benefit or injury which nations derive from the presence of idle foreign visitors—e. g., in Paris or in Rome. It was probably the appearance, and soon after their publication, of his larger work which caused these essays to slip a little out of sight. But for broad and masterly treatment of some of the most salient points of economic science, and those especially in which vagueness of conception continually reproduces itself, their present re-issue cannot be too warmly welcomed.

Zehn Wandtafeln zur Anatomie des Gehörorgans zum Gebrauche für Vorlesungen und zum Studium der Anatomie des Ohres. Herausgegeben von Dr. ADAM POLITZER, Professor der Ohrenheilkunde an der Wiener Universität. Nach den Originalien des Autors in Lithographie ausgeführt von G. SCHLESINGER. Wien: Wilhelm Branmüller. 1873.

SCIENCE, as well as literature, possesses her *editions de luxe*, of which the work before us is a colossal specimen. No student of the anatomy of the ear—certainly no one who intends to make that organ a specialty in practice—can afford to be without access to these magnificent plates, if not in his own library, at least in a public one. Dr. Adam Politzer is one of the most careful and accomplished anatomists in Vienna, and has embodied the results of the minutest and most elaborate investigations into the structure of the hearing apparatus in the beautifully lithographed plates before us. The outer and inner surfaces of the tympanum; the aspect of its inner cavity; a section of the osseous acoustic duct; of the cavity of the tympanum and of the vestibule, with the topographical situation of the ossicles; the topographical relation of the ostium pharyngeum tubæ Eustachii to the forms of the nasal maxillary space; a section of cartilaginous ear-trumpet; the osseous labyrinth; a section of the cochlea, with the modiolus and the lamina spiralis ossea; the section of the osseous and membranous arch; a section of a cochlear spiral, with the scala vestibuli et tympani, and the structure of the cochlear canal; a view of the vestibular surface of the stapes in the fenestra ovalis, with the ligamentum orbiculare stapedis; a section of the fenestra ovalis of the stapes, and of the ligamentum orbiculare; a schematic representation of the organ of Corti, with the terminal expansion of the nervus acusticus; and, finally, the various pathological types of the tympanum—such are the various objects and aspects delineated with surpassing correctness and clearness in the plates of Dr. Politzer. Descriptive letter-press, brief but amply sufficient, accompanies each plate, and completes a work unique of its kind even among the many admirable anatomical publications of the school of Vienna.

The British and Foreign Medico-Chirurgical Review and Quarterly Journal of Practical Medicine and Surgery. No. CVI. April, 1874. London: J. and A. Churchill.

THE present is an average number. It opens with a good article on "Recent Advances in Physiology"; another, on "Modern French Surgery"; and we may mention one on "Megrim, Sick Headache, and Allied Disorders," by Dr. T. Clifford Allbutt, based on Dr. Liveing's recent work, which is spoken of in high terms. There is also the usual Bibliographical Record and Chronicle of Medical Science; and Dr. C. A. Gordon contributes some useful Notes on the Health Service of Armies during War.

REPORT
OF
The Lancet Sanitary Commission
ON
H.M.S. "VICTOR EMANUEL"
AND HER INVALIDS.

WHEN, by the courtesy of the War Office and Admiralty authorities, we were permitted, in November and December last, to inspect H.M.S. *Victor Emanuel*, then being fitted out for hospital purposes in Portsmouth dockyard, it did not occur to us that four months only would elapse before we should have an opportunity of mounting her ladder again off our own coast, and welcoming those back who had gone out in her to assist at the brief Ashantee campaign. But so it was. On Sunday morning last we recognised the old white wooden walls again as she lay at anchor quietly in Southampton water, and, on boarding her, found her decks almost as clear of invalids as when she started for the Coast. Most of her sick freight had been landed at Portsmouth on the 10th inst.; and thirty-one of the more serious cases, including three officers, had been sent on to Netley, and were safely housed in the Royal Victoria Hospital last Saturday morning. But we went to Southampton to see, in the first instance the ship, and to find out how far the care, skill, industry, and money that had been expended on her and her fittings at Portsmouth had proved a success. Captain Parkin kindly gave us the range of his ship, and Dr. Steele, the acting medical chief, escorted us over the vessel. It is of course superfluous to record that everything was in excellent order, in full sea-going trim, and ready, as we take it, for the reception of at least a hundred and forty invalids at five minutes' notice. The cots were still all *in situ*, with blankets and bed-gear folded up; the decks were entirely free from all hospital smell, especially that compound odour peculiar to floating hospitals; the paint-work looked exceedingly fresh and clean; and although the dispensary had been, as we were informed, pretty considerably indented upon, it had not lost its newness either of tint or timber. The patent waterclosets were found to work very well, and, as we suggested, there appears to have been a superabundance of them, for some four or six were closed during most of the voyage. The cots, which, as may

be remembered, were arranged so as both to rock and lock, were unsuccessful as to the former, for the centre of gravity was placed too high, so that the compensating movement did not act hammock-fashion. This, however, is a defect easily remedied. The ports on the main-deck were carried open constantly, and though up-casts and down-casts did not invariably do as they were told, but sometimes the reverse, the general result was successful; and we may fairly record, from the evidence received, that, if the art of ventilation afloat is not yet properly known or practised, the mechanical combinations adopted, and the strict surveillance carried out, on the *Victor Emanuel* were was attended with very good results. For, although this ship intended for, and was made, the "head-quarter" hospital, placed as such at the "base of operations," and of course received the worst cases of sickness, and those most severely wounded, no pyæmia, erysipelas, or anything approaching to what is termed unhealthy action of wounds appeared among the patients. The sick and wounded arrived from the country exhausted and depressed to the last degree, and, as Capt. Parkin very properly put it, it was plain to see that during the Ashantee campaign there was no fair chance for "conservative" surgery. But it was clear from evidence on all sides that the quiet, orderly, and skilled arrangements adopted and carried out produced a speedy improvement in the physical and mental condition of all the patients received. Messrs. Siebe and West's ice-making machine was a great success, and worked so well that it supplied not only the sick and the staff of the *Victor Emanuel*, but a considerable quantity to other ships. Nothing appears to have been left undone to promote the comfort of the invalids, for the bulkheads and sides of the hospital deck are almost covered with cuttings from the illustrated periodicals sent out to the coast, among which flourish conspicuously portraits of the Duke and Duchess of Edinburgh, the members of the new cabinet, and the claimant. It will be recollected that the officers' quarters were placed astern, and we still think from further observation that they would, in a sanitary sense, have done better with less cabin accommodation. In proof thereof we may cite that several officers were, by their own desire, as well as by the advice of their surgeon, moved out of their cabin on to the open deck, and we found Lieutenant Sherston, of the Rifle Brigade (the only patient too ill to be sent on shore), thus accommodated. We take it, indeed, that the many currents of air produced by numerous open ports and numberless ventilators of all descriptions were a chief means of bringing about the good results above indicated; and if this hospital ship be utilised again for war purposes, the officers should be persuaded to sacrifice privacy for the sake of health. As to the other arrangements both above and below the hospital deck, there is nothing but praise to bestow. The "Birdcage-walk" (may we claim the honour of having christened it?) was used as much as its ancient namesake between Westminster and Buckinghamgate, and that bugbear on board ship—the hoisting up of the sick—was, by its aid and that of a small derrick on the upper deck, performed in a manner equally satisfactory to doctors and patients. As our blue-jackets would say, there was no "hitch or kink" in the process. The washing apparatus appears to have worked satisfactorily in every respect; and the performances of the cook were so highly eulogised by those on board, from poop to forecastle, that he ought to live in the remembrances of all, sick or sound, who came under his culinary dispensation. Double awnings were used continually in the tropics, and no case of sunstroke occurred on board.

In summary of the foregoing (inclusive, too, of our descriptions in November and December of last year), it must be a subject of great congratulation to Sir William Mends, Sir William Muir, and Dr. Marston, that the object for which the *Victor Emanuel* was fitted and sent out has been so successfully accomplished. The sinews of war were at their disposal, and have been used, as the event has proved, to good effect. The event goes, at the same time, to prove that although ships are manifestly and superlatively unfit for permanent hospital work, they may be utilised with great advantage when war occurs on or near an enemy's coast, because their services are then only temporary. And this aspect holds, too, in the case of port sanitary authorities, who will find it cheaper, and in most ways more satisfactory on the score of isolation, to maintain for emergency purposes a small floating establishment that can be built and kept up at a comparatively small expense. The fittings of all floating hospitals ought to be removed and renewed at frequent intervals, and, unless required for a special service of this kind, they need not be at all costly.

The medical officers on board the *Victor Emanuel*, belonging to the army medical staff, were Surgeon-Major Dr. Bleckley, in medical charge; Surgeons E. L. Low, A. Doig, J. F. Beattie, Alex. Turner, W. H. Steele, and J. Fleming, The last-named officer acted as pathologist to the expedition. The medical staff of the Royal Navy on board comprised Second Class Staff-Surgeon R. C. P. Laurence (Sir G. Blane's Medalist), and Surgeon James McCarthy, M.D. Surgeon-Major Bleckley was selected for medical charge of the hospital ship of the Ashantee Expedition, and was gazetted a C.B. on March 31st last.

The ship brought home four invalided military officers and 160 non-commissioned officers and men. The officers, all of whom, with one exception, were convalescent, are Captain Dudley North, 47th Regiment, a severe wound in the arm; Lieutenant T. A. Kirwin, 1st Battalion Royal Scots, and Lieutenant Wynter, 33rd Regiment, suffering from dysentery and fever. All these 164 cases, when received on board at Cape Coast Castle, were of a severe character, but, as is recorded above, only 31 were admitted into hospital when the vessel arrived. Three officers and seven men died during the voyage. Major Baird, of the 42nd Regiment, who died from heart disease, was buried at Sierra Leone; Lieutenant Johnston, 23rd Regiment, died from dysentery, and was buried at sea; and Dr. McCarthy, of the Medical Staff, was drowned by jumping overboard while in a delirious state. This unfortunate officer was excessively prostrate from dysentery, and having exhibited active symptoms of delirium, was placed in one of the side cabins at the stern, under the charge of two orderlies. He contrived, however, to get into the quarter-gallery, and must have squeezed himself with some difficulty through its comparatively small and oblique port, for a splash in the sea gave the first alarm, and he at once disappeared. No effort was spared to save the poor fellow, for Lieutenants Hulton and Hocker, two of Captain Parkin's officers, jumped into the water and swam about for some time in a harbour full of sharks in a fruitless search. We trust that their brave efforts will not be unrecorded in official quarters.

The ship has accommodated since her departure a total of 565 invalids, of whom three only died on board before the vessel sailed for England. Of this number 104 were discharged fit for duty, 125 were transferred to other ships, or to join their respective corps, 165 were invalided home, and 167 remained in the ship when she sailed for England. Very little steam was used on the homeward passage, and the old sailing route round the Western islands was taken. It is probable that the ship will remain off Netley for some weeks, as the wards of the Victoria Hospital will, probably before THE LANCET of this week is published, be crowded by the arrival of three large batches of invalids and time-expired men from India, some of whom may possibly be accommodated on the *Victor Emanuel*.

On leaving the ship we were permitted by Inspector-Gen. Balfour, principal medical officer at Netley, to visit the sick and wounded landed the day before. There were 14 of the former and 16 of the latter, the 31 cases received being completed in the person of Captain North, who, we were glad to see, was sufficiently well to join the party in the morning-room of the officers' quarters. All the medical patients appeared to be suffering from the effects of dysentery, or from what is commonly called West Coast fever of a severely and irregularly remittent form. None of the cases exhibited any emaciation, and had, indeed, outward and visible signs of the results of good feeding. We only caught two in the surgical wards, for the rest were all out and about. One of these still possesses a memento of Amoaful in the shape of a stone shot imbedded in the right supra-clavicular space.

At the conclusion of our descriptive and critical report in December last, we recorded the opinion that the ship commanded by Captain Parkin, though not destined to kill, was eminently calculated to cure. How far that opinion has been justified by events the gallant captain and all those associated with him during the voyage best can tell.

PRINCIPLES OF

HOSPITAL CONSTRUCTION.

BY JOHN SUTHERLAND, M.D.,
Member of the Army Sanitary Commission, &c. &c.; and
CAPTAIN DOUGLAS GALTON, C.B., F.R.S.,
Director of Public Works and Buildings, &c. &c.

No. IV.—THE WARD PLAN.

As the hospital, or that part of it intended for the accommodation of sick and injured patients, ought to contain nothing else but the patients and those appliances required for their nursing and treatment, it has next to be considered of what kind of accommodation this portion of the structure should be made up.

The foundation of every hospital plan is the ward. It may be said to be almost the only element requiring special consideration, because everything else is merely subsidiary to ward plan and arrangement.

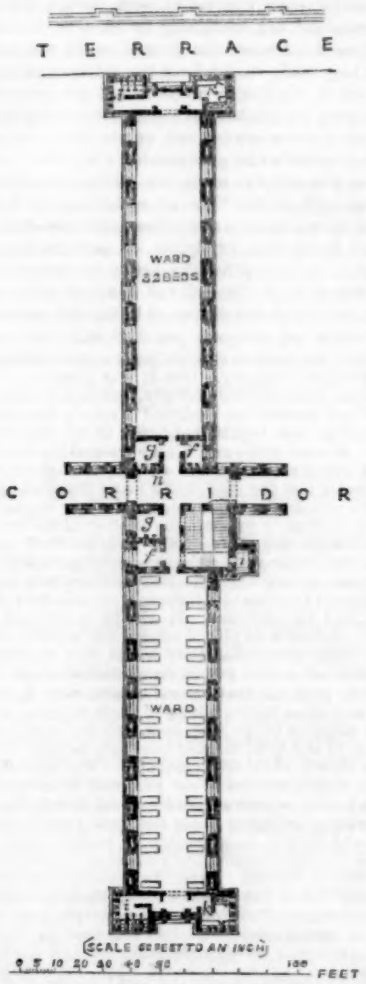
There are points in ward construction of a professional nature, which are subject to considerable variation in different classes of hospitals. The most important of these points is the ward dimensions—i. e., the number of beds which a ward should contain. Another point relates to the question of small wards for operation and other special cases.

Of recently constructed general hospitals the wards of Vincennes military hospital are the largest, and contain 40 beds. Lariboisière Hospital wards are constructed for 32 beds each. The same unit has been adopted for the largest wards in the Herbert Hospital. The advantages of large wards, especially for military hospitals, is the great facility afforded by them for inspection and the exercise of discipline. In the larger pavilions of the Herbert Hospital, in which the wards are placed end to end, with a spacious, light, well-ventilated hall, and stairs between the ends, any officer on duty can see 64 beds at a glance by means of glazed ward doors. There is also considerable saving in the cost of superintendence and nursing where large wards are used. Moreover, in military service, where, as a rule, every man not fit for daily duty must enter hospital, the wards contain only a small proportion of really serious cases in time of peace. There is no objection, therefore, to large wards for hospitals of this class. But it seems doubtful whether wards for 32 beds are the best suited for severe cases of disease, and still more when wards of this size are intended for the reception of surgical cases generally, and especially for operation cases. Recent discussions appear to have pointed to the conclusion that, for surgical cases, smaller wards might be advantageous, or even wards for single cases.

This part of the subject might very well be left for consideration by physicians and surgeons acting on building committees, by whose judgment the architect would have to be guided. But so far as regards sanitary requirements, *these* constitute, so to speak, a fixed element in the design, which it is the duty of the architect to adapt to the special case with which he has to deal. It may, however, be stated, as the result of experience, and as bearing directly on the question of sanitary condition, that no general hospital should contain any provision in the plan for lying-in wards. These should always form a separate hospital building, with special arrangements. It is doubtful, also, whether it would not be better, on grounds of discipline as well as of morality, where Lock wards are to form a portion of a general hospital plan, that they should always be detached, or at all events have their own outer door and offices.

Leaving for the present the question of the number of beds which a general hospital ward should contain, we shall proceed to discuss the ward plan, using the Herbert Hospital wards as affording the requisite illustrations of sanitary principles applicable to ward construction.

FIG. 1.



f, Nurses' rooms. *g*, Sculleries. *i*, Watercloseets, sinks, &c. *k*, Lavatories, baths, &c. *n*, Lift.

Although this sketch (Fig. 1) shows a double pavilion, either half of it may be taken as representing a hospital ward unit. It will be seen that it embodies the following principles:—

The number of beds is divisible by 4, by which the whole wall space is utilised. Wherever it is not intended to introduce fireplaces in the outer walls the same numerical relation should be observed; but, of course, such a proportion in the bed-spaces necessites the introduction of artificial warming and ventilating arrangements, or, as in the case of the Herbert Hospital, the use of fire-grates, of which there are two placed in the centre line of each ward.

The wards have windows along opposite sides, with a bed in each corner, and two beds between every two windows along the wall. Each ward has likewise an end window to the open air, and it will be seen that the beds are protected by projections from direct currents entering by these end

windows, which currents are thrown down the centre space between the beds.

The waterclosets, ward-sinks, baths, lavatory-basins, and urinals are placed in two projections at the outer or free ends of the wards, having special ventilating arrangements for ensuring that, from whatever direction the wind blows, no effluvia can enter the wards.

In certain recently constructed hospitals this essential condition has been disregarded by placing certain of these conveniences in a projection off one side of the ward, thereby exposing the sick quite unnecessarily to emanations arising from temporary defects in the apparatus. Experiments of this kind should never be tried with sick.

For each ward is provided a small nurses' room, with an inspection window into the ward; and a small scullery for washing up tea-things and providing warm water or warm food or drink for special cases. The relative dimensions of all these parts shown in the plan have been found in practice sufficient in the Herbert Hospital, in planning which they were considered in connexion with the entire arrangements. In some hospitals this subsidiary accommodation has been augmented by providing for nurses cooking, dining, and the like in these ward offices; but this arrangement increases unnecessarily the labour of the internal administration of the hospital, and it adds to the complication and expense of ward construction, and detracts from the sanitary condition of the whole building. In the double ward shown in Fig. 1 the two wards are effectually cut off from each other by a 12-feet wide corridor and a central hall carried up to the roof of the building, where it is lighted and ventilated by several large, lofty windows. But the wards admit of other methods of arrangement. They may be placed singly, or alternately, or in line. One advantage, indeed, of the pavilion structure is the facility with which it accommodates itself to the shape of the site.

Ward dimensions.—The question of ward dimensions has generally been considered with reference to how many cubic feet should be allowed to each bed; but this is in reality a quite subsidiary matter, which will regulate itself when the other dimensions required for sanitary purposes have been first arrived at. The essential point to be considered is the superficial area per bed; and this involves the question of distance between the beds, and the space required for ordinary ward work. At the Military Hospital at Vincennes the area per bed is 90 square feet; at the Lariboisière it is 104 square feet. The area recommended by the Barrack and Hospital Improvement Commission was 87 square feet per bed for the smaller class of military hospitals. At the Herbert Hospital, where the wards are large, it was deemed necessary to extend the area to about 96 square feet. Taking the ordinary run of civil hospital cases, the superficial area may be safely calculated at between 90 and 100 square feet per bed in general wards, according to the nature of the site. Where there are students in attendance additional area should be allowed for this contingency.

After having settled what the superficial area is to be, the cubic space per bed will of course depend on the height of the ward. Building committees and architects sometimes like lofty wards, but such are not necessary for any purpose of health. Above a certain height all is waste of money so far as the patients are concerned. The limit of height depends on what is necessary for ventilation by opening the upper portions of the windows without exposing the patients to draughts. Wards of various height have been examined with reference to this point, and it has been found sufficient to limit the ward height to 14 feet. More than this is merely a matter of appearance; although it must be borne in mind that a large, unnecessary volume of air in the upper part of a ward may become unsafe unless carefully renewed by ventilation.

The questions of ventilation and warming also enter into this discussion; for the ward contains a store of air which has to be renewed at a certain rate, without unduly lowering the temperature. The ward dimensions already stated would give from 1200 to 1400 cubic feet per bed in the larger wards, and this is quite enough of air to enable an equilibrium to be kept up. In small wards, or single rooms for special cases, other considerations require that the dimensions given above should be modified so far as regards the superficial area, which would have to be enlarged.

The only other point in the ward plan requiring notice is the wall space per bed. In recent military hospitals this has been fixed, by the Barrack and Hospital Improvement Commission, at 7 ft. 3 in. per bed. At the Herbert Hospital it is 7 ft. 4 in., which is an inch more than the allowance at Lariboisière. Either amount will do; and, this being decided, the breadth of the ward is also determined. At the Herbert Hospital the wards have a breadth of 26 feet—four feet less than at Lariboisière. When wards are less than 24 feet wide (the width for the smaller military hospitals), they are not wide enough for ward work. In small wards and single-bed rooms the superficial area must be determined on other grounds.

No hospital ward should ever contain above two rows of beds between the opposite ward windows. It is unnecessary to discuss this essential condition of ward plan, because it is scarcely likely that a rule so obvious will be departed from in future hospital plans.

A MILITARY BUDGET.

A COPY of returns relating to the Army presented to the House of Commons, on the motion of Mr. Holms, furnishes us with some interesting information. It appears that out of 90,469 non-commissioned officers and rank and file of different arms of the service, 13,159 were under twenty years of age, and 44,167 between that and thirty. Of a total of 59,064 serving in India, there were, on Sept. 1st, 1873, 1126 under twenty years of age, 35,345 between twenty and thirty years of age, and 22,593 over thirty. Of 21,538 non-commissioned officers and rank and file serving in the colonies at the same date the number under twenty years of age was 871, between twenty and thirty years of age 14,049, and 6618 over thirty. The number of recruits who joined the regular army during the year ending Nov. 30th, 1873, was 16,851, of whom 803 were under seventeen years of age, 5050 from seventeen to nineteen, 4005 from nineteen to twenty, and 5033 from twenty to twenty-three years of age. Out of 3451 recruits sent to India in the year ending Nov. 30th, 1873, there were 85 under nineteen years of age, 203 from nineteen to twenty, and 2057 from twenty to twenty-three years of age. The admissions into hospital from the Home army during the fifty-two weeks ending Nov. 28th last amounted to 67,965, and the average number of men constantly under treatment during the year, calculated from the numbers shown as remaining in the weekly returns, was 3357. The deaths in the Home army for the year ending Nov. 30th, 1873, amounted to 876; and to 1134 in the European army in India in the year ending Sept. 1st last. During the year ending November, 1873, the number of men who returned as invalids from India was 2592, and 984 of these Indian invalids were discharged the service.

THE ERASMUS WILSON HOUSE AT EPSOM COLLEGE.—On Tuesday last, the Head Master, the Rev. Dr. West, D.D., formally gave the "house warming" of this recent addition to the College, now in working order, inviting as his principal guest Mr. Erasmus Wilson, and also the other members of the Council.

THE LANCET.

LONDON: SATURDAY, APRIL 18, 1874.

THE Conjoint Scheme for Ireland has got into the newspapers. It has been the subject of letters and leaders in the *Freeman's Journal* and in *Saunders's News Letter*. Professor MACNAMARA is entitled to the credit, or shall we say the blame, of removing the discussion from the halls of colleges and universities to the columns of the daily press. He opens the discussion in a letter to the Irish papers—which, by the way, appeared about the same time in a medical contemporary—the *Medical Press and Circular*. As all who know Mr. MACNAMARA would expect, his letter is very forcible, and is well calculated to create misgivings in the minds of the opponents of the Conjoint Scheme in Ireland. Mr. MACNAMARA regards the Scheme as affecting—first, the status and reputation of the profession; secondly, the welfare of the several licensing bodies; thirdly, and last of all, private and vested interests. Mr. MACNAMARA argues that it will be impossible for the Irish Colleges to compete separately with the Conjoint Scheme for England; and this, mainly, on the threefold ground that the English Scheme is much less exacting in the matter of courses of lectures from students—requiring only one course where the College of Surgeons requires two or three courses; that it is less exacting in the matter of fees—requiring only thirty guineas, whereas the separate licences of the Irish Colleges would cost forty guineas; and that while the student who passes the examination of the English Scheme will have the licence of the two Royal English Colleges with the *imprimatur* of all the English Universities, the Irish student will have the diploma of the two Colleges acting independently of each other and apart from the Universities. Mr. MACNAMARA speaks in no mincing terms of the present system as offering facilities for passing to ignorant candidates. Far be it from us to anticipate the scene that will be forthcoming in the Medical Council if he ventures to give more definition in that body to the following sentiment:—"I fancy that everybody will admit that the interests of the public are seriously jeopardised by the toleration of the continuance of a system whereby a candidate rejected by one board for gross ignorance can apply to another board without almost an hour's delay, and, as has been but too frequently proved, with every prospect of success, for a qualification entitling him to be placed on the Medical Register, whereby he is legally qualified to take charge of the health and lives of Her Majesty's subjects."

As we stated a fortnight ago, Mr. MACNAMARA is confronted in his own College with opponents. The leader of these is Dr. GEORGE KIDD, who has set forth in a pamphlet his objections to consolidating the licensing bodies. Dr. KIDD remarks upon the refusal of Queen's College to join in the scheme; upon the opposition within the College of Surgeons itself to it; on the disproportionate curriculum of the English and Irish Schemes; upon the legal difficulties in the way of either the Irish College of Surgeons or the Apothecaries' Company joining in the Scheme. Supposing these difficulties to be overcome, he argues that uniformity of examination is impracticable, and that, if it were practicable, it would be productive of evil. His main thought is that a standard of education to be uniform must be low; if not low, unqualified practitioners will be called in to supply the place of the qualified. Further, in Dr. KIDD's opinion, a uniform standard of education and examination would produce stagnation and retard progress. He winds up his pamphlet by long quotations from the shallow objections of Dr. LYON PLAYFAIR to conjoint schemes.

It is a sufficient answer to Dr. KIDD to say that one or two low examinations among the nineteen examining bodies have, in the opinion of all unbiased men, more effect in keeping down the standard of examinations than the conjunction of the several bodies in each division of the kingdom could have. It is not pretended that there would be any serious risk of getting a sufficient number of well-qualified medical practitioners if the conjoint examination in each division of the kingdom were equal to the best minimum examination of the present licensing bodies. The temptation to pass men on an insufficient examination would be removed by the conjunction of bodies; and the scandal of making poor students pass two almost identical examinations to get a complete qualification would also be removed. This scandal is not noticed even in the newspapers, but it is so great and real that one day, if not minimised and removed by the voluntary and cheerful action of the present bodies, it will be removed in a summary way by the creation of a new and efficient body created for the sole purpose of licensing practitioners for the ordinary work of the State, leaving to the existing bodies the development of their "individuality" in the institution of higher examinations, the demand for which will not cease with the establishment of well and justly constituted licensing boards. The real objections to all these Conjoint Schemes are very different from those raised by Dr. KIDD.

THE rise and progress of epidemic diseases afford an abundance of food for study on the part of politicians, commercial men, and sanitarians; for the subject has political and commercial as well as sanitary aspects. Hence the exponents of our Public Health Laws at home and abroad are naturally compelled by the force of public opinion to plan preventive measures that shall work with a minimum of restraint on the liberty of the subject, and with little or no restraint on the increasing activity of commerce; and therefore we see that the Jupiter of journals, though its columns are crowded with parliamentary debates, war news, royal progresses, and details of an Indian famine, always manages to find a corner for any individual desirous to record his experiences as to the miseries of quarantine. No less than four International Sanitary Conferences on this subject have been held since 1866; and at that convened at Vienna last year a resolution in favour of abolishing quarantine regulations in Europe on rivers was carried by a large majority, but it was decided at the same time to continue for the present the system of quarantine at sea. The Russian Govern-

ment *Messenger* reports that another Conference has been proposed by the Cabinet at St. Petersburg, to assemble at Vienna during the current year, in order to revise the measures hitherto taken to prevent the spread of cholera on the continent of Europe. It is hardly necessary to remind our readers that the Governments of Spain, Portugal, Greece, and Turkey still keep up a vexatious and, according to our belief, useless system of surveillance, greatly to the injury of British commerce. Other countries do that which is right in their own eyes, with, as it appears, comparatively indifferent success. And our own Government has, until the last twelve or eighteen months, persistently declined to interfere with the importation of any epidemic diseases except plague and yellow fever. So that these islands, with vessels of all kinds and descriptions converging to our ports, from every quarter of the globe, have been of course ready recipients of anything (disease included) that could be brought from Europe or elsewhere free of duty.

In continuing the consideration of this important question it is proper to review briefly what has been done at home and abroad to prevent the importation of epidemics. An Order in Council was issued in July of last year, which, in Article 7, gave power to sanitary authorities to visit and examine the occupiers of any ship or vessel that came from a port infected with cholera. In doubtful cases, power of detention for forty-eight hours was given; and in all cases where sickness was actually present, power was given under the 29th section of the Sanitary Act of 1866 to remove the patient, fumigate the vessel, and destroy or disinfect the clothing. Moreover, in contradistinction to one of the old quarantine regulations, it is ordered by Article 11 that all persons not certified by the health officer as suspected or infected shall be permitted to land immediately. We are not prepared to declare and maintain that systematic action taken under this Order would prevent the importation of disease, but we incline very much to this belief. Anyhow, the system was fully and faithfully carried out at only three or four of our smaller ports last year. It is said that no workable plan of the kind could possibly be devised for Liverpool, and that the system, if attempted in the Thames, would encounter innumerable difficulties. We are, however, at a loss to conceive why a plan practised successfully in a small port cannot be put in force with equal precision in a large one; and submit that, with such active bodies of men as the port sanitary authorities of London and Liverpool, the question is really a mere matter of machinery. If we look abroad on the experiences of last year, the authorities at Elsinore can tell us that, by a similar system carried out in its entirety, they were enabled to keep cholera out of their town and port, although the disease raged with great severity at Helsingborg, only three miles distant by water, and with which Elsinore was in communication by steamer three times daily.

The duration of the incubation of cholera has, it appears, yet to be determined; and sceptics will assert that, having constant communication with continental ports only a few hours' steaming from us, it is impossible to separate the healthy from the suspected. It must be remembered, however, that forty-eight hours are permitted for the detention of the latter, and that, in the interval, the freedom of commerce is not fettered by the detention of the ship. The terms of the Order, to be tried fairly, must, however, be put in action simultaneously, when the proper time arrives, at each and every port in the kingdom; and it appears that the Local Government Board have as yet constituted only fifty port sanitary authorities, although a total of eighty-eight ports is indicated in the Customs' returns. It is, of course, nonsense to institute a system of surveillance at Gravesend and leave disease to filter in unchecked by way of Harwich, or to inspect at Hull and leave matters alone at Grimsby. It is eminently necessary, too, that the staff employed shall be all-sufficient for the purpose both as to quantity and quality, so that commerce shall not be harassed unnecessarily. Example is better than precept. We believe that the Order in Council above referred to might, if acted upon as soon as cholera again threatens and worked intelligently, do a very great deal to show continental powers that the progress of epidemic diseases may be arrested, and so assist to abolish by international law the miserable and extortionate system called quarantine.

DR. TOLER T. MAUNSELL has addressed to the members of the Irish Poor-law Medical Officers' Association (of which Association he is the honorary secretary) a letter in which he discusses the requirements of the Irish Poor-law Medical Service and the principles upon which a Public Health Medical Service for Ireland should be organised. The letter is intended to elicit the opinions of the different Poor-law medical officers, and to induce them to exercise such influence as they may be able to bring to bear upon the members of Parliament of their several districts with respect to the subjects considered. It includes also the "Observations on State Medicine and Public Health in Ireland" prepared by Dr. GRIMSHAW and Dr. MAUNSELL.

The differences between the Poor-law Medical Service of Ireland and that of England are so considerable that it is not easy to place ourselves in a position to judge rightly of the questions raised by Dr. MAUNSELL. These questions refer, first, to certain disadvantages as to fees for various purposes from which the Irish Poor-law medical officer suffers as compared with the English Poor-law medical officer; and, next, to certain fundamental arrangements in the organisation of the service. It would appear that a Public Health Bill for Ireland may be brought before Parliament this session; and in view of this probability, and of the influence such a Bill might have upon the Poor-law Medical Service of Ireland, it is held by Dr. MAUNSELL to be desirable to consider the whole relation of the Irish Poor-law medical officers to the State on the one hand and to the local Poor-law authorities on the other. Dr. MAUNSELL holds that, to place this service upon a proper foundation, it is desirable to consolidate it with the Civil Service of the Crown. One-half the cost of the Irish Poor-law Medical Service is already paid by the State; why should not the whole be thus paid, and the service relieved from the many disadvantages which attach to its local relations? Dr. MAUNSELL suggests:—

"1st. The constitution of the Poor-law Medical Service of Ireland into a State Medical Service on the basis of the Civil Service.

"2nd. The total payment and the chief control of this service by the State.

"3rd. Adequate remuneration for all services rendered to the public by any of the officers of the service.

"4th. Increase of pay by length of service, and promotion to the higher offices by selection.

"5th. The handing over of all civil public medical and sanitary duties of the officers of this service.

"6th. A certain and substantial scale of retiring allowance in case of retirement from age, infirmity, or loss of health in the service.

"7th. A general readjustment of the areas of dispensary districts, so as to meet the convenience of the sick poor, the public, and the medical officers, which would be greatly facilitated by the substitution of a system of union for electoral division rating."

Sanitary organisation in Ireland would appear to be in a rudimentary state, and the great magnitude of the rural areas and populations to be dealt with, as compared with the urban, makes the problem of organisation very different from that of England. But here, as in England, a foremost difficulty to be contended with is the unfitness of existing districts—Poor-law, electoral, or other—for public-health purposes. To extend the English Public Health Act of 1872 to Ireland would, it is believed, make matters worse than they are. It is suggested that the medical organisation of a Public Health Service should comprehend the following arrangements:—1. A medical commissioner, who should be, as at present, the head of the Public Health Department. 2. Eight district medical inspectors, who should have the charge of the whole medical service, both preventive and curative, each in his own district. 3. District health officers, who should be the dispensary medical officers. 4. Special health officers for towns over 10,000 inhabitants, composed of more than one dispensary district. The public health inspector should also be, it is said, the medical Poor-law inspector for the district in which he is situated. His jurisdiction should run parallel, but not interfere, with that of the non-medical inspector. All medical and sanitary matters would be transferred to the Public Health Department of the Local Government Board, and conducted by the medical commissioner as its head. There are at present ten Poor-law inspectors—six lay and four medical. The lay inspectors, it is suggested, might be increased to eight, who should perform fiscal duties only. The medical inspectors would have charge of the whole Medical Service, both preventive and curative. Where local investigations are held under the recent Local Government Act, the two inspectors would act together as a court of inquiry.

Such is the scheme for the reorganisation of the Irish Poor-law Medical Service, and for the formation of a Public Health Medical Service, submitted for the consideration of the Irish Poor-law Medical Officers' Association and Irish members of Parliament.

THE great scheme by which all the medical charities of Manchester were to be affiliated, through a central Council, and all to be worked more or less on the provident principle—and of which we have repeatedly given the details,—does not develop quite smoothly. On Monday last a Conference of the Committees was held in Manchester to receive reports of the feeling of the individual charities on the matter. The result was the discovery that the general feeling was against the scheme, the only institution accepting it without modification being the Royal Infirmary. As the chairman, Mr. HUGH BIRLEY, M.P., said, the result was very discouraging. The promoters of this scheme are entitled to feel gratified that the Royal Infirmary has given its adhesion to this movement. But this success does not avail much when we consider the nature and extent of the opposition of the other charities: on one side is the Royal Infirmary agreeing to the scheme; on the other side are the Salford Hospital, the Clinical Hospital, the Chorlton Dispensary, St. Mary's Hospital, the Hulme Dispensary, the Ardwick and Ancoats Dispensary, and the Hospital for Sick Children, on one ground or another, objecting to the scheme. The most common ground of objection is the fifth clause, which provides that no medical charity, after a lapse of two years, shall receive a patient from any district in which a provident dispensary has been established except upon the recommendation of such provident dispensary. The Chorlton Dispensary's objection is that the scheme will not meet the objects which it (the dispensary) contemplates. The Hulme Dispensary was anxious to establish a provident dispensary in connexion with itself; but its committee object to being absorbed into and wholly controlled by a central committee. The chairman, though evidently feeling discouraged, expressed the hope that a modification of the details of the scheme might remove much of the opposition. But this is very doubtful. It is true that the fifth clause and the Central Council clause are chief points objected to in the scheme. But, on the other hand, it is not easy to see what essential part of the scheme would remain if these clauses were removed.

It will be remembered that we spoke of this scheme a few weeks ago with misgiving, and we are not surprised to hear that it does not all at once run on all fours. It is so grand in its conception that we could not but respect it. But it too often happens that these grand conceptions are not realisable in complicated social conditions. The simple fact is that the scheme is too big and too pretentious. The promoters make the mistake that Sir CHARLES TREVELYAN is always making in London, of being too eager to have the millennium of a reign of providence established at once by a stroke and by a species of compulsion, whereas it can only be done gradually and by a species of education, whereby the working classes shall be trained to habits of forethought in the matter of sickness and to see the advantage of connecting themselves with provident institutions, and whereby the supporters of provident schemes shall be taught that the poor shall not suffer hardship or injury in times of sickness out of deference to any abstract principles of political economy. We sincerely trust that the friends of the provident principle in Manchester will not be too much discouraged, and will only take this lesson out of what has happened—viz., to establish provident dispensaries freely in all parts of the city, without being too eager to fetter existing institutions. The committees of old charitable institutions may be led, but will certainly refuse to be driven.

WESTMINSTER ABBEY will be the appropriate resting-place of England's great missionary explorer. The sanctity of its associations will in no wise be diminished by its receiving the mortal part of this lay apostle of Christianity. To make science subservient to faith; to extend knowledge for the enlightenment and salvation of the heathen; to suppress the horrid traffic of man in man, and to break the bonds that enthral the mind and keep it savage,—such was the high calling for which LIVINGSTONE was set apart, and which he prosecuted with an energy and enthusiasm reminding us of PAUL of Tarsus. His death was worthy of his life; and will long be remembered as among the most touching episodes in the annals of human enterprise.

When the last obsequies are celebrated, and the mournful procession has turned away from the scene of interment, not England only, but the civilised world will bethink itself of the precious bequest of his diary and other records. No time will be lost in giving these to the light; and the Royal Geographical Society will, we doubt not, acquit itself well of the pious duty of superintending their publication. The task will be no ordinary one. A knowledge inferior only to that of their author will be required to sift and estimate and fuse into form the multitude of observations amassed by LIVINGSTONE; the geographer assisting the naturalist, and the missionary accompanying both, in the editorial work. If well performed, the publication will be his truest monument—an enduring record of acute observation and comprehensive induction, to which the *savant* will often have recourse for guidance, and the student for inspiration.

Another thought will present itself after the ceremony of Saturday. Provision for the family and the relatives of the illustrious deceased will occur to all as a duty to be rendered speedily and handsomely. Like the Roman general, his dying hours were unrelieved by the tendance of those near and dear to him—*desideravere aliquid oculi!* and we know that thoughts of family and home were uppermost with him at the last. Let the nation do that which he would have hastened back to have done—put the aged sisters and the sons and daughters whom he had maintained beyond the reach of privation, and assume the place of one whose care for mankind was itself parental. We of the medical profession will not be backward in this duty, remembering that few men have disappeared from our ranks more universally deplored, as few have served in them with a higher purpose or shed upon them the lustre of a purer devotion.

DR. M. T. SADLER, medical officer of health for Barnsley, in a report as to the health of the district for the past year, states that during the months November and December the deaths greatly exceeded the births. Two hundred and thirty-three, or more than 28 per cent., were of children under one year, while 449, or more than 55 per cent., were under five years of age. The chief cause of the excessive infantile mortality of the district was scarlet fever, to which was ascribed 15 per cent. of the mortality. Whooping-cough and measles were also fatal. The school-rooms of Barnsley would appear to be overcrowded and badly ventilated, and generally in an unsatisfactory condition. Other sanitary faults are the want of proper traps between the sewers and the houses, and neglect of disinfectant measures during and after fevers.

Medical Annotations.

"Ne quid nimis."

SIR ALEXANDER ARMSTRONG, K.C.B.

OUR readers who take an interest in the Naval Medical Service will probably hear with surprise that the present Director-General's term of office has been renewed for a second period of five years. We learn from an "inspired" paragraph in the pages of a naval paper that "Mr. Ward Hunt has very graciously acted upon the recommendation of the late Mr. Corry, of Lord Hampton, of Mr. Childers, and lastly of Mr. Goschen," in thus breaking faith with the Naval Medical Service; and we can readily believe it, for we have reason to know that Sir Alexander Armstrong has proved a very efficient head of his department, the more especially as regards the performance of those duties which come under the cognisance of the First Lord of the Admiralty; but the point we have to consider is the effect upon his brethren-in-arms which Sir Alexander Armstrong's reappointment will have *per se*, since his is the only appointment which is now allowed to extend beyond five years. In the "good old days" when shore-going appointments were practically given for life—at least active life,—there was no reason why the chief officer in the service should be on a different footing from his subordinates, and no objection was raised therefore to the lengthened tenure of office by Sir William Burnett and others. But the justice of making all good appointments of short tenure was so obvious that it becomes difficult to justify the evident hardship to the senior ranks of the Medical Service which the present arrangement inflicts.

There are but four inspectors-general of hospitals and fleets, and two of these are necessarily unemployed, for Haslar and Plymouth are the only hospitals in which they ever serve. The list of deputy inspectors is somewhat larger; but what prospect is there of any one of these gentlemen obtaining promotion if no move is made in the inspectorial rank? The selection of one inspector to fill the Director-General's chair should make a move at least every five years; but now, unless death should step in, it appears probable that another five years must elapse before any promotion of a deputy inspector can occur.

We have no special officer to recommend, and, for aught we know, one of the deputy inspectors may be more suited for the post of Director-General than any one of the existing inspectors. But we feel that, unless some very good reason exists for continuing Sir Alexander Armstrong in office—a reason which ought to be publicly stated,—a wrong has been done the Naval Medical Department, which must react injuriously upon its welfare and popularity.

THE HOSPITAL SATURDAY CONFERENCE.

THERE was something decidedly lively and entertaining at the conference held, on the invitation of the Lord Mayor, on Saturday last. The adjective "stormy" has been preferred by several of our contemporaries, but that is a strong word. Captain Mercier will by this time have perceived that the working men of London do think a little more of the Mansion House as a centre of a benevolent movement on their part than of St. John's Hospital for Diseases of the Skin, and of the Lord Mayor as a treasurer than of himself. True, the Lord Mayor is not a working man, but neither is Captain Mercier. But the working men, as citizens, have a sort of property in the Lord Mayor, and in the Mansion House. Why should they not have the head-quarters of their fund at the Mansion House? Why should they have them at a skin hospital? There is something the reverse of com-

plimentary in asking the working men to identify themselves with such an institution. Such a fund as they propose to raise should be kept aloof from all hospitals so as to be above suspicion of partiality; but to be identified with one small institution is to stamp it with a narrow character which should not attach to the subscriptions of British workmen. Further, both taste and prudence dictate the propriety of a treasurer of a fund meant for the benefit of all hospitals not being the treasurer of one hospital. Captain Mercier is so wedded to his idol in Leicester-square that argument is probably thrown away upon him, but working men will yet, we believe, see the force of our objections to their being identified in any intimate way with St. John's Hospital. The conference of working men at the Mansion House was too tempting an opportunity to preach his usual sermon on providence to be resisted by Sir Charles Trevelyan; but he made a mistake, and the meeting would not allow the sermon to be finished. There is a time for everything, and the British workman, though an enduring sort of character, does not like to be preached to about providence when he has come to a meeting to give his own views on charity. Captain Mercier suggested that the Hospital Saturday Fund would be lost in the Hospital Sunday Fund. It is certain that the sources of the funds were kept perfectly clear last year, and equally so that they will be this. Saturday sums raised by workmen will not be confounded with Sunday sums raised in churches. But as they are all meant for one purpose, and as impartiality is the great desideratum, we trust there will be no hesitation on the part of the working men in agreeing that their funds shall be disbursed through the existing Committee of Distribution, provided that a sufficient representation of their class on the Distribution Committee is secured. They want to satisfy the public of London and the hospitals and dispensaries by what they do, and they are more likely to do this by acting in connexion with the Mansion House than with a Skin hospital.

RECRUITING.

The discussion in the House of Commons the other evening in connexion with the Army Estimates was not calculated to have an exhilarating effect on John Bull's spirits. He is called upon to pay pretty heavily for an army which he is assured is dwindling away in point of numbers and deteriorating in point of quality. According to some, Lord Cardwell has been fulfilling the part of a vivisectionist in regard to the military service, and they declare that his cruel experiments have already impaired its vigour and reduced its strength. Some point to Prussia as our model, some look to short service and big reserves, and some are content to repose their faith in the militia. A few have a vague sort of conviction that a standing army at all is unnecessary for this country, because the people would rise like one man in case of invasion, forgetting what Lord Palmerston remarked, that they would be knocked down again like one man. The fact is, however, that England cannot tamely follow any model. Our position, colonies, modes of life, and the amount of individual liberty enjoyed by us, are such that all comparisons with foreign methods of procedure must be fallacious. If we require good men we must pay for them, or consent to sacrifice something of our liberty, and adopt a system by which they can be had without paying. If we do not get the number or the quality of men we once did as soldiers, it is mainly owing to the fact that other sources of employment, and the rate of wages, have vastly increased. General Taylor's report is, on the whole, satisfactory. The number of recruits required annually to supply the ordinary casualties of the army may be roughly calculated at 10 per cent. of the effective force, and we have hitherto managed to get them. The year 1876 will prove a trying one, for the operation of the Army Enlistment Act of 1870 will then become apparent. If we do not take a pessimist view of matters, it is because we remember that the cry has always been the same—that the army "was going to the dogs"; still we do not shut our eyes to the fact that the difficulties of the recruiting question become every year more apparent. Ireland, once a fertile field for young and ablebodied soldiers, yields yearly a scantier crop of recruits of the right stamp; the canny Scot is not readily overcome by the glamour of renown attaching to a Highland regiment; and the English labourer prefers the scanty wages of the farmer, with an occasional strike for their increase, to the daily pay of the soldier. Medical officers are averse, on physiological grounds, to the practice of lowering the standard in order to obtain the requisite number of recruits. There is one field which we have not yet cultivated. Why should not the nation adopt the friendless or parentless boys who now, from little or no fault of their own, often develop into the criminal classes, and, by the establishment of training schools, educate them for future soldiers?

DRUNKENNESS AS A CAUSE OF DISEASE AND INJURY.

At the meeting of the Governors of the Newcastle Infirmary, held on the 2nd inst., the report which was presented contained the following paragraph:—

"When we think in what numerous forms and what number of instances disease and injury, despite every care, are the portion of humanity, it is sad to think in how many cases it is self-inflicted. Of the persons who were brought to the infirmary during the year which has just expired as suffering from accident, no less than 367 were in a state of intoxication at the time they were admitted. How many more had received their injuries from the same cause, but had become sober before reaching the infirmary, it is not easy to say. The mischief done by drink, as exhibited in this hospital, cannot be exaggerated. At one and the same time three men were lying in the house suffering from accidents met with whilst they were drunk. Under ordinary circumstances their wounds would without difficulty have been cured; but their systems were so saturated with alcohol that the healing process could not go on, and they all died."

It is seldom that we find so useful and wholesome a lesson as the above embodied in a hospital report; and the compilers of it deserve every credit for putting so important a fact prominently before the public. The experience of Newcastle is, more or less, the experience everywhere; and if the total abstainers are in want of real facts with which to impress their arguments upon the public, they cannot do better than search the records of the London and provincial hospitals. Every house-surgeon would bear testimony to the awful prominence which drunkenness takes as a cause of slight as well as severe injuries, and all who remember what a house-surgeon's work used to be in the "good old times" before the passing of the "one o'clock" Act, and compare it with the house-surgeon's work of the present day, would be surprised to find how many hours of additional rest metropolitan house-surgeons obtain in consequence of the compulsory abstinence forced upon the public during the small hours of the morning. The importance of temperance is daily being forced upon us; and the countenance of the Duke of Cambridge which has lately been accorded to temperance workers in the army is a fact the value of which can scarcely be overestimated. Dr. Guy, in his recently published lectures "On the Health of the Army and Navy," lays particular stress upon the importance to the soldier of the virtue of temperance. He quotes a passage from Sir James M'Grigor to the effect that, during the disastrous campaign at Walcheren,

almost the only regiments which remained tolerably healthy were the German regiments; and Sir James says: "The temperance, steadiness, and regular habits of the German legion kept them always in a state of health." "When I read this," says Dr. Guy, "I must confess that I congratulate myself, as an Englishman, that hitherto it has been our good fortune to encounter as comrades, not as foes, these temperate, regular, steady, and brave men." For many centuries the world has been accustomed to "clepe us drunkards," and, we must confess, with no little show of justice. The time has now apparently arrived when the temperance question is likely to attract the attention of persons in high places; and although we are no advocates for compulsory abstinence, yet, in common with all thinking men, we shall welcome any means which may seem likely to put a check upon our "national vice."

A LAST RESOURCE.

IT is a common belief in many parts of South America—a country as besotted in superstitious observances and customs as Spain is—that the bite of the rattlesnake acts as a cure for elephantiasis. In one sense it may be said to be a specific for the disease, as all who have tried the remedy have died within a few hours of the experiment. The following case appears to have acted as a rude shock to the believers in the efficacy of the poison of the Crotalus horridus. Josè Machada, aged fifty years, originally a fine athletic man, had been laid up in the hospital of Rio de Janeiro for four years with elephantiasis in a form which obstinately resisted all treatment. The disease extended all over his body, producing such loathsome disfigurement that the unfortunate man eventually resolved to embrace the alternative of subjecting his hand to the fang of the deadly snake. Accompanied by his medical attendants—a circumstance that will strike European practitioners with profound surprise—who had taken the precaution to secure a declaration in which the patient affirmed that he acted entirely of his own free will, and against their advice—the unfortunate man proceeded to a house in which a rattlesnake was kept caged. He put his hand to it and grasped the animal firmly, which immediately buried its fangs in his fingers, without, however, causing him any sensation of pain; a result no doubt due to the disorganised condition of his tissues. This occurred at 11.50 A.M. In less than an hour the hand had swollen, and his sight had become dim, while the pulse increased in frequency. Soon there supervened acute pains, and the respiration became laboured, with hæmorrhages and excessive evacuation of urine. During the progress of the symptoms little medical interference was attempted on the first day. He was given aquardente, the common spirit of the country, and made from the fermented juice of the sugar-cane. Next day at 10 o'clock sinapisms were applied to the inner surface of each thigh, and alcoholic enemas were administered. All was in vain, and the man died at 11.30, comatose, and with the body of a livid colour, exhaling a most offensive odour.

PHARMACY IN IRELAND.

THE King and Queen's College of Physicians have drafted a Bill proposing to extend the Pharmacy Acts of England to Ireland. No doubt the Apothecaries' Company of Ireland will feel aggrieved at the interference of the College of Physicians with what it will consider its vested rights; but the evil to be remedied is both absurd and urgent. The large towns of Ireland are monstrously deficient in competent druggists and compounders of medicine. The secretary of the Apothecaries' Hall of Ireland, in an interview with Lord Hartington, Chief Secretary for Ireland, on the 15th January, 1874, stated (vide *Saunders' News Letter*, and other morning papers of January 16th, 1874) that "there were, to his knowledge, from twenty-eight to thirty of the most important market towns of Ireland, with a population varying from 10,000 to 50,000, wherein there was no apothecary or competent person qualified to compound medicine, consequently causing great inconvenience." The explanation of this state of matters is not far to seek. It is not that there is any scarcity in Ireland of persons willing to enter the lucrative trade of compounding and selling drugs; but in the present state of the law of Ireland, compounders of prescriptions are liable to a penalty of £20 if they do not possess a licence from the Apothecaries' Hall, which implies four years of medical study. Such an education is altogether incommensurate with the function of a druggist, and the sooner the law which requires it is altered the better. Either the Apothecaries' Company should abate its requirements of would-be pharmaceutists, or the Pharmacy Acts should be extended, as the College of Physicians suggests, to Ireland. It is a most serious thing for towns to be unprovided with respectable pharmaceutists; and it stands to reason that the education which suffices to make men good druggists in England is amply sufficient to fit them for similar duties in Ireland. The interests of a licensing body here, as in some other cases, are opposed to those of the public.

THE SANITARY STATE OF THE AUCKLAND REGISTRATION DISTRICT.

DR. THORNE THORNE, one of the inspectors of the Local Government Board, has recently had an interview with the sanitary authorities of the Auckland Registration District, the greater part of which lies in the Durham coal-field. A long-continued prevalence of infectious disease, associated with a general high mortality, has led to a complete inspection of the district, and the results which were disclosed have more than proved the necessity for some central interference. At the interview referred to, Dr. Thorne quoted statistics by which it was shown that the mortality of the Auckland district, both from all causes, amongst infants, and from enteric and scarlet fevers, during the decennial period 1861–70, was considerably higher than that prevailing in England and Wales, and in adjoining districts; and that in the town of Bishop Auckland the mean death-rate was 32·5 per 1000 living, and the rate of mortality from fever alone had been about five times as high as that occurring in the large towns and cities of England. Whilst speaking with approbation of the new houses which have recently been constructed in some of the colliery villages, and which are far superior to those which are usually enjoyed by the labouring classes, the inspector spoke in terms of the strongest condemnation of the utter sanitary neglect which characterised a considerable proportion of colliery dwellings in the district, and he pointed out how the circumstances which had come under his notice tended to maintain the constant prevalence of infectious fevers. Enteric fever was found in association with conditions of almost unexampled excremental poisoning; the only ventilation possible for many homes was effected by means of air loaded with the emanations of midden-privies, the contents of which, at times, soaked into pantries and dwelling rooms; the water of sewage-polluted streams was in some places used for domestic purposes, and the drains were, in some of the more populous districts, so constructed as to carry foul air into the interior of houses. The spread of scarlet fever, which appears to be endemic in the district, was facilitated by conditions of overcrowding of the worst description, and the absence of any means of isolation and disinfection. In some instances colliers' dwellings were erected having only

one habitable room, which was used for a large family, besides lodgers, during both day and night, and in which patients suffering from infectious fevers, and even dead bodies, were also seen to be lying. Entire hamlets, and even streets in the town of Spennymoor, are stated to have no closet accommodation whatever; the yards and passages are often soaked with liquid filth, and the air is loaded with excrementitious matter—conditions which were found specially to have affected infants, whose delicate organisation does not enable them to withstand unhealthy conditions by which strong adults are much less affected. Indeed, the infant mortality throughout the district is exceedingly high, and whereas during 1873 the death-rate of children under one year of age to every 100 births registered was 14·9 throughout England and Wales, and not higher than 10·7 in its more healthy districts, it reached 25·0 in Bishop Auckland, and 28·3 in Spennymoor, a rate of mortality which indicates a fearful waste of life. At the conclusion of Dr. Thorne's address, a discussion ensued as to the means which should be adopted to improve the sanitary conditions of the district, and a vote of thanks was accorded to him for the detailed information which he had laid before the meeting.

TEMPERATURE OF HEART AND LUNGS.

ALBERT and STRICKER (Stricker's *Jahrbucher*, 1873,) object to the usual mode of determining the temperature of the heart, that the thermometer is in contact both with the muscular tissue and with the blood, and they find that considerable difference exists between the two. Thus, a thermometer introduced through the diaphragm and imbedded in the substance of the left ventricle, showed a temperature of 0·5° to 0·7° Cent., or more than a degree Fahrenheit higher than another introduced into the cavity of the ventricle through the auricular wall. Little difference (amounting only to one-tenth of a degree centigrade) existed between the blood in the left ventricle and that in the aorta in favour of the former. Further experiments showed that the blood of the right auricle is warmer than that of the superior vena cava, and that in the ventricle the temperature is higher as the apex is approximated, probably owing to the admixture of the blood of the coronary vein, which has circulated through the warm muscular tissue of the heart. They are of opinion that there is decided refrigeration of the blood as it passes through the lungs, though the heat lost is small, and is partly compensated for and restored by the higher temperature of the walls of the left ventricle. They found, lastly, that the blood of the aorta is warmer than that of the vena cava descendens.

IDIOPATHIC RABIES.

CAN a dog become rabid without being bitten by a hydrophobic animal? Opinions are not unanimous as to the affirmative, though many experienced veterinarians are disposed to think the spontaneous origin extremely likely. They mostly attribute this origin to unsatisfied genesic tendencies, and examples are cited which give much weight to this belief. Among these we may mention one published in *L'Union Médicale* of Feb. 14th, 1874.

M. Fitte, a veterinary surgeon in the South of France, states that he was the owner of a fine pointer bitch of good size, which habitually lived with a diminutive dog belonging to his servant. At a given time the pointer fell into a state which excited the little animal to such a degree, that for days it made attempts which its small size utterly frustrated. This amused the servants considerably; but the poor creature suddenly disappeared, and was at last found crouching under a table, giving out the characteristic dull, hoarse bark of rabies. The people of the house wanted to remove a bone lodged, as they fancied, in the dog's gullet, but the master, recognising the state of the animal, confined it, and forthwith observed its movements. For three consecutive days all the well-known symptoms of rabies made their appearance—viz., fits of rage, diminution of sensibility, rabid howl, depraved appetite, anger at the sight of another dog, and death from paralysis. No organs were found diseased after death, but the stomach contained pieces of carpet, some leather and straw. The bladder was empty, contracted, and drawn together like a closed bag. The dog never left the house without the servant who owned him, and for a whole year no mad dog had been heard of in the neighbourhood.

BOMBAY MEDICAL RETIRING FUND.

WE have received copies of some printed documents connected with a question which has been raised by Surgeon-Major J. Young Smith, and has created some interest in the Bombay Medical Service. This officer claims the highest annuity from the Bombay Medical Fund, by virtue of his having been in the service for twenty-eight years, and of having served the regulated period in India to qualify for a Government pension. His claim has been disallowed because he has not served the regulated period in India which qualifies for a Government pension of £365. The discussion of this apparently simple matter extends over many closely-printed pages. It is conceded that, as the rules stood up to 1852, Dr. Smith's claim would have been admissible. The alterations subsequently made have been with the object of adapting the rules of the fund, for all who chose to retire on their pensions, to the conditions qualifying for the latter, so that there might be no unnecessary delay in their finally leaving the service. The subject has become so obscured by a cloud of words and an appeal to regulations and modes of procedure in previous cases, that it seems to us the main point has been utterly lost sight of. The wording of Rule 4 is very clear and distinct—namely, that twenty-eight years' service qualifies for the highest pension, and we cannot see that there is anything in any subsequent ruling to invalidate Dr. Smith's claim. If the reasoning of the late Minister for India is more ingenious than ingenuous, it is probably owing to his not having been rightly instructed as to the points in dispute. It might be well to memorialise the present Secretary of State for India on the subject.

HEALTH OFFICERS AND MORTALITY RETURNS.

IN his first annual report as medical officer of health to the combined sanitary authorities of Gloucestershire, Dr. Bond very properly draws attention to a matter which the Legislature ought to dispose of on the earliest occasion. Obviously one of the essentials of an effective sanitary organisation is the possession of systematic returns of vital statistics. But the supply of such returns is exclusively within the power of the local registrars of births and deaths, whose duties and privileges are regulated by Acts of Parliament which were passed when sanitary requirements were little thought of, and who owe no allegiance in registration affairs to anybody but the Registrar-General. Now surely the idea could never have been seriously entertained that the registrars throughout the country, who are scantily enough paid for the work prescribed for them by their official regulations, would be found willing to undertake the extra official work of furnishing detailed returns of registered births and deaths for the use of sanitary authorities without being remunerated for their trouble. Yet neither in the Public Health Act of 1872 nor in the subsequent regulations of the Local Government Board was any provision made for putting the requirements of the local

sanitary authorities, and the rights of the registrars in respect of birth and death returns, upon an equitable and satisfactory footing. The result has been that many health officers have been deprived of the assistance which the registrars could have given them, and will no doubt remain in that unfortunate position until Parliament puts an end to the difficulty. This it would no doubt have done last session had the late Government persevered with the Registration of Births and Deaths Act Amendment Bill, which contained clauses enabling the local authorities to call for returns from the registrars, and prescribing the remuneration to which the registrars should be entitled for making such returns. For this reason, as well as on other grounds which we have often enough adverted to, we trust that Her Majesty's Government will, under any circumstances, determine to go on with the Registration Bill this session, and we have some reason to hope that it is their intention so to do.

MORTALITY OF THIGH AMPUTATIONS IN BENGAL.

WHILST the facts adduced in the recent debate on pyæmia are still fresh in our minds, we may call attention to the results of thigh amputations in Bengal, as summarised by Surgeon K. M. Downie, M.B., and recorded in the *Indian Medical Gazette* for March 2nd last. The data were collected by the Medical Department by means of an appropriate form, which was distributed to all the hospitals and dispensaries in the Presidency, and filled up from the records of these institutions by the medical officers in charge. Dr. Downie's tables show that the mortality of thigh amputations in large hospitals greatly exceeds that of the smaller hospitals and dispensaries. The ratio in the former case (including the Medical College Hospital and the Native Hospital, Calcutta, and the Mitford Hospital, Dacca) is 80 per cent., and in the latter 42·1. The results in the three hospitals in question, in which the proportion of deaths attributable to pyæmia and osteo-myelitis is very large, have an important bearing, as our contemporary remarks, upon "hospitalism," which has so much engaged the attention of the surgical world during recent years, and they go to confirm the conclusions arrived at by Mr. Erichsen and other authorities. Of course there are other causes contributing to the fatality of thigh amputations in the large hospitals of Calcutta and Dacca, but the great number of casualties due to diseases of a septic nature leaves little room for doubt that the result was attributable to conditions included in the term "hospitalism." This has been long recognised by the surgeons of these institutions, and Dr. Fayrer expressed some strong views on this subject. It is satisfactory to learn that the Government of Bengal intends providing additional accommodation for surgical cases in connexion with the Calcutta hospitals.

LEGAL LIMITATION OF THE WORK OF CHILDREN, YOUNG PERSONS, AND WOMEN.

ANYBODY who has his eyes open, even in London, will see need for somebody to interpose to protect children and young persons, both male and female, and possibly women, from excessive work. The women, however, should perhaps take care of themselves, and relieve legislators of the care of protecting them. It is astonishing and pitiable to see the instances of boys and youths working far beyond any strength they can have. Such an anomaly is not altogether invisible even in the large establishments of princely and philanthropic merchants who might be expected to see that such a scandal did not arise. The break-down—often permanent and irretrievable—in the health of these boys and youths and young girls is a painful sight witnessed weekly, if not daily, by medical practitioners. And we protest against such a system. We regret that legislation should be necessary for it; but we fear nothing less than legislation will stop it. If such things are done in London in the first establishments, what things must be done elsewhere and in the lowest establishments. We are accordingly compelled to approve of a Bill now before the House of Commons, prepared and brought in by Mr. Mundella, Mr. Shaw, Mr. Callender, Mr. Phillips, Mr. Cobbett, Mr. Anderson, and Mr. Morley, to Amend the Factory Acts. The Bill provides that young persons or females shall not work in factories more than 9½ hours a day; a child 5½; that neither of these shall work before seven in the morning; that after September 1st, 1876, no child under ten shall be employed in any factory; and that, after this same date, a young person shall not be employed in a factory otherwise than as a child may be employed, unless he or she shall be certified by an inspector of schools to have passed the *third* standard of examination of the Privy Council. We do not know how much is included in the word "factory," but we should prefer a more inclusive word. It is lamentable that legislation should be necessary for such purposes. But that it is so cannot be doubted by those who have taken any notice of the labour imposed on young persons by needy parents, and thoughtless, if not greedy, employers.

RESEARCHES ON THE EFFECT OF FOOD ON THE COMPOSITION OF THE BONES.

H. WEISKE and E. WILDT (*Zeitschrift für Biologie*, 1873, Band ix., Heft iv., p. 541), in a series of investigations carried on upon goats last year, showed that although the withdrawal of lime or of phosphoric acid from the food of adult animals led to fatal consequences, yet that it had little or no influence on the composition of the bones, and, in particular, did not make them more friable. The present series of researches were made with a view of determining whether any such influence was exerted on the bones of young animals. The animals selected on this occasion were Southdown lambs about ten weeks old. One of these was fed upon food poor in phosphoric acid, a second on food poor in lime, and a third on normal diet. After the lapse of fifty-five days various bones were analysed, and the general result was, that just as in adults so in young animals: no remarkable change was produced in the composition of the several bones by the difference in the diet, or, in other words, that the composition of the bones is independent of the nature of the food. The bones were, however, stunted in their growth.

SANITARY NOTES.

WE have lately received a report by Dr. George Wilson, medical officer of health, on the sanitary state of the borough of Warwick. Dr. Wilson has arranged his report under the heads of water-supply, drainage and sewage, sanitary condition of streets, courts, and back-yards; nuisances, slaughter-houses, bakehouses, common lodging-houses, house accommodation and population, and health of the town, and has summarised each subject separately and systematically. Waterworks are being constructed at Warwick, in accordance with recommendations made by Dr. Buchanan, the medical inspector of the Local Government Board in 1870. Dr. Wilson finds the drains very inefficiently ventilated, and, under the head of nuisances, remarks that at least 2000 pigs are kept in the town. There are no trade nuisances, the slaughter-houses are fairly clean, but the common lodging-houses need revision and reform. One of the most important practical suggestions contained in this able though brief report is that the sanitary authorities under whom Dr. Wilson holds office should combine

also for the purpose of establishing one central hospital for the reception of persons suffering from contagious or infectious diseases, in accordance with the terms of the thirty-seventh section of the Sanitary Act of 1866.

Dr. Jas. Hickinbotham has issued a first report on the sanitary condition of Aston Union and adjoining districts. The report is wanting in arrangement or classification, and it is desirable that when committees are advised to have "plain and practical suggestions printed as a window or handbill for distribution," the author should act up to the letter as well as the spirit of his intention. We transcribe the following verbatim:—"Vessels containing carbolate or chloride of lime should stand about in the room, and all bed- and body-linen should, before removal, be put into water containing carbolic, and afterwards into boiling water." These instructions may be practical, but are certainly not plain.

MEDICAL EDUCATION.

DR. ARLIDGE, one of the physicians of the North Staffordshire Infirmary, has published as a pamphlet a letter addressed to the General Medical Council, pointing out the wasted opportunities for the acquirement of medical knowledge to be found in the provinces. In this view Dr. Arlidge follows Mr. W. P. Swain, of Devonport, who a year or two back pointed out the great field for successful pupilage offered by country hospitals and infirmaries; but he goes further in recommending that botany, chemistry, and materia medica might be advantageously learnt before the student goes up to London, and also in recommending the amalgamation of some of the London schools in order to secure larger classes and better lectures. This last proposition we have supported again and again, but vested interests appear to be too strong for any great change to be hoped for, at least at present; and, as regards the proposal respecting botany, chemistry, and materia medica, the ground has been somewhat cut away from Dr. Arlidge's feet by the last report of the Committee of Reference for the Conjoint Scheme of Examination, in which botany and chemistry are allowed to be taken up once for all as subjects of the Preliminary Examination, and all three subjects may be studied anywhere, and passed by the student within a twelvemonth of his registration. Hospital practice, too, is recognised at other hospitals than those which have medical schools attached.

Agreeing as we do with both Dr. Arlidge and Mr. Swain in regarding a limited pupilage at a country hospital as of the greatest service to the future practitioner, we coincide with the former in regarding "this loosening the bands which have hitherto circumscribed medical education within narrow and arbitrary limits without tangible or sensible reasons, as an event which must exercise a great and most salutary effect upon the whole profession."

STRUCTURE OF THE THYROID GLAND.

IN a pamphlet recently published by M. S. A. Boéchat some novel views of the structure of the thyroid are advanced. M. Boéchat hardens the gland in picric acid, then transfers it for a few days to a solution of gum, and finally immerses it in alcohol. In opposition to previous writers, he maintains that the alveoli intercommunicate freely, and that they are not round, but irregularly-shaped cavities. The walls of the vesicles are formed by a single layer of epithelial cells, which separate the vesicles from the lymphatic sinuses, that are here very large and numerous. The individual epithelial cells are broader than high, and are not therefore, as Verson described them, columnar in form. In childhood the vesicles contain a viscous fluid, with a variable number of granulations. In later life they are filled with colloid substance. The latter stains deeply with anilin red and carmine. Boéchat agrees with Virchow in believing that the colloid substance is not produced at the cost of the epithelial cells, since these can be often found forming a perfect layer in alveoli filled with the colloid substance. The lymphatic sinuses constitute a wide cavernous plexus, distributed through the connective-tissue stroma of the gland.

"THE TIMES" AND "PALL MALL GAZETTE" ON THE PUBLIC HEALTH ACT, 1872.

The Times of the 4th inst., and the *Pall Mall Gazette* of the 6th inst., published remarkable articles on the failure of the Public Health Act of 1872. *The Times* gave a long, careful, and incisively-written history of the administration of the Act and of the chaotic results of Mr. Stansfeld's policy, following very closely the line of argument which has been sustained in THE LANCET. The *Pall Mall Gazette* describes the failure of the Act in the following felicitous manner:—

"Its failure, now that this has become too clear to be disputed, turns out to be of a more than usually instructive kind; for it shows that, contrary to all expectation and probability, there was in 1872 still a blunder remaining for us to commit in sanitary administration, and that we have since committed it. We had already exhausted every source of administrative inefficiency which is to be found in inadequacy of powers, defects of initiative, and obscure intricacy of law. We had set up sanitary authorities who could not act, authorities who would not act, and authorities who did not know when, where, and how to act; it remained for us to establish authorities who could and must act, and then to misdirect and mislead them into a confusion worse than inactivity. Having failed in every possible way at the circumference, we had yet to fail at the centre, and we have done it."

THE LOSSES OF THE ASHANTEE WAR.

WE are given to understand that the following may be taken to represent the losses by death from wounds and disease among the military who took part in the late expedition:—Of officers 6 died from the effects of wounds and 8 from disease; 7 deaths occurred among the men from wounds, and 18 from disease. The total number of admissions on board the *Victor Emanuel* up to the date of her departure from the Coast was, we are told, of officers 55, 7 being for wounds; and of men 565, of whom 51 were for gunshot wounds. Looking to the nature of the climate of the Gold Coast, and the character of the diseases contracted there, we think the nation may be congratulated on the low rate of mortality that has to be recorded.

HEALTH OF SEAMEN.

MR. C. M. NORWOOD will, this evening, refer in the House of Commons to the subject of unseaworthy sailors, and will suggest that the instructions of the Royal Commission on unseaworthy ships, now sitting, be extended so as to include an inquiry into the quality and number of seamen at present doing duty in our mercantile navy. We may suggest briefly that the practical remedies are the extension of the Contagious Diseases Acts to the mercantile marine ports, and medical inspection in some cases before signing articles.

GOOD-SERVICE PENSIONS.

WE are very glad to notice that Colonel North seized the occasion of the discussion on the vote for the medical establishments of the army to suggest that the number of good-service pensions for the medical officers should be increased, and that his tribute to the devotion of the medical officers in the late expedition elicited cheers from the House. Colonel North pointed out that eighty-four medical officers

went to the Gold Coast, and only eight medical officers had good-service pensions, while the officers of the marine, whose numbers were fewer, had as many. Whilst we are upon this subject we would also venture to make a suggestion, and it is that good-service pensions should not, as a rule, be bestowed upon officers of high rank in the medical service, who had already gained their share of emoluments, honours, and pensions, but upon those who had failed to reap these rewards for the good services they had rendered—the men who had, in the executive ranks, been everywhere with their regiments, incurring the risks of field service, and those of epidemic disease and tropical climate.

MOTOR AND SENSORY NERVES: M. VULPIAN'S RETRACTATION.

IN 1863 M. Vulpian contended that the filaments of the sensory and motor nerves could perform the same function, and that their physiological properties were not radically different. He based this opinion upon the following experiment. The hypoglossus (motor) and the lingual (sensory) having been cut, the central end of the lingual was connected by a suture with the peripheral end of the hypoglossus. Three months after this M. Vulpian laid bare the central segment of the lingual, separated it from the brain by section, and irritated the stump of the lingual prolonged by the hypoglossus. The operator provoked distinct movements in the corresponding half of the tongue, and then concluded that a sensory nerve can act as a motor nerve under certain circumstances. But M. Vulpian has lately given up this view, and freely confesses his error. He ascertained that one of the branches of the chorda tympani which arises from the facial (which is a motor nerve) accompanies the lingual during its distribution to the tongue. Hence it cannot be maintained that the movements excited in the first experiment were entirely dependent on the action of the hypoglossus. By further trials M. Vulpian found that the chorda tympani is solely concerned in the movements obtained after the connexion artificially brought about between the lingual and hypoglossus.

THE ASHANTEE WAR REWARDS.

THOSE medical officers who have undergone the hardships without sharing in the special rewards of the late campaign must naturally have felt greatly disappointed. It is, we think, to be much regretted that the only road to these distinctions should be through the despatches of the general in command. We are, of course, very far from saying that the medical officers who were honourably mentioned by Sir Garnet Wolseley did not thoroughly deserve all they have got; but we should have been glad on every ground, and especially on that of their having been the executive officers who accompanied their regiments to the front, to have recorded the fact that some special distinction or reward had been conferred on the surgeons of the 42nd Highlanders and Rifle Brigade; and we hope that it is not yet too late to do this, and to include the names of some other officers with the above, as, for example, those of Surgeons-Major Gore and Fraser.

THE CLINICAL SOCIETY.

AT a meeting of this Society, held on the 10th instant, Mr. Callender exhibited a patient and read notes of an interesting case of neuralgia in a stump treated by nerve-stretching. The case was discussed by Mr. Henry Lee (under whose care the patient had been, and who pleasantly recognised him), Mr. Barwell, Dr. Buzzard, Dr. Myers, and others, some doubt being entertained as to the *bona fides* of the patient. Mr. Haward followed with a case of recurrent sarcoma of the breast, which, had not the discussion on cancer occurred so recently, would probably have produced an interesting debate. Mr. Teevan concluded the evening by reading certain notes of cases of sterility after abortion, and, before doing so, adopted the unusual proceeding of handing "confidentially" to the president the names of the operators and patients referred to in the cases quoted.

ST. GEORGE'S HOSPITAL.

THE Governors of St. George's Hospital have just determined to close the institution for a period of three months, commencing on the 1st of June next. This step was rendered necessary by the need for carrying out certain repairs and alterations in the building. The hospital will be entirely closed to in- and out-patients, and the members of the medical staff have been requested to limit at once the admission of in-patients.

HOSPITAL STOPPAGES.

WE are glad to perceive it notified by Clause 46 of the Army Circulars, that the Secretary of State has decided that the diseases for which the stoppage of the whole of a soldier's pay shall be made are to include only the following —viz., primary venereal affections, gonorrhœa (fresh attacks only), and delirium tremens. This stoppage of the whole of a soldier's pay, however, is a serious source of discontent, and we cannot wonder at it. The last War Minister might, with perfect justice, have made some deduction in the rate of hospital stoppage in favour of those soldiers who were suffering from diseases attributable to the nature of their duties, but he began at the wrong end in punishing a soldier by the stoppage of his entire pay. It would be better to rescind the regulation altogether than to allow it to remain as at present.

A WARNING.

A "MEDICAL STUDENT" has been convicted at the Central Criminal Court of manslaughter—he having attended a woman in confinement and left her unrelieved and destitute of medical aid, in consequence of which she died. Mr. Justice Brett sentenced him to twelve months' hard labour, remarking on the convict's cruelty, but saying nothing as to his culpability in practising without a qualification. The profession has a direct interest in the suppression of such irregular practitioners, and we could have wished that Mr. Justice Brett had so adjusted the penalty as to give it a pointed reference to the crime—for such it is—of obtaining money under false pretences.

THE CHOLERA.

WE have just received tidings that cholera still exists at Rotterdam, and that during the last few days at least one fatal case has occurred. It appears that we are never to be free from this pest, and we sincerely hope that our port sanitary authorities are fully alive to the importance of keeping a strict surveillance over all arrivals at Gravesend, Hull, and elsewhere, the practical utility of which was so emphatically demonstrated in the autumn of last year.

THE fifteenth report of the Board of Superintendence of the eleven Dublin Hospitals has been presented to Parliament. The total number of patients treated during the year ending March 31, 1873, amounted to 10,105, being a decrease of 2190 as compared with the return of the previous year. The income from all sources, including Government grants, was £36,119. The expense of maintaining the hospitals amounted to £33,426. A sum of £1301 was expended on alcoholic stimulants.

IN connexion with the late melancholy death of Dr. Gwynne Harries, from scarlet fever contracted in discharge of his duty, it is pleasant to be incidentally reminded of two circumstances—first, that he was most solicitously cared for by his colleagues of the Medical Department; and, secondly, that all that skill and sympathy could do for him was done at the London Fever Hospital by Mr. F. A. Mahomed, the resident medical officer, whose professional attention was seconded by the kind ministrations of Mrs. Mahomed. We happen to know that within the last few days a very beautiful silver jug has been presented to Mr. and Mrs. Mahomed by the inspectors of the Medical Department of the Local Government Board, in recognition of their kind services to Dr. Harries.

THE metropolitan vestries would appear to be unanimous in condemning the Adulteration Act as it now stands. The Kensington vestry is among the latest of those bodies who are taking action in the matter; and at its last meeting decided to memorialise the Local Government Board on the subject, pointing out the defective provisions of the Act, and suggesting such modifications and additions as would render it more practical and efficient. We have so often pointed out the shortcomings of the existing measure (which has yet accomplished much good) that anything we might now say would be recapitulation. It is to be hoped that an amended Act is now in course of preparation.

RECOGNITION of Livingstone comes plentifully from the provinces. At Oxford, Mr. Daniel, of Worcester, at a convocation held on the 15th, delivered a Latin oration, in which he alluded to the missionary explorer as a man "inter primos strenuus, audax, simplex. . . . . Tu vero Apostolorum vera propago, nunquam penates ac liberos revisurus, pia recordatione tuorum et totius humani generis in æternum florebis." On the 14th, at Edinburgh, a meeting was held, at which it was resolved to take immediate steps to erect a national statue in memory of Livingstone. Mr. D. O. Hill's design, which has been for some time before the public, was the one fixed upon.

THE deaths in London last week amounted to 1387, including 36 from measles, 14 from scarlet fever, 55 from whooping cough, 29 from different forms of fever, and 10 from diarrhœa. Two patients died in hospital whilst under the influence of chloroform, administered with a view to operation. A woman died at Bow from pyæmia resulting from the scratch of a cat. Although no case of small-pox was registered in the metropolis, the disease continued prevalent in Leeds, Sheffield, and Birmingham, causing in the latter town alone 18 deaths.

ON Tuesday, April 7th, the Earl of Onslow and Mrs. Onslow entertained a very distinguished party at Claudon House upon the occasion of the re-opening of the parish church of West Claudon. Amongst the medical gentlemen present we perceive the names of Dr. and Mrs. Stedman, Dr. and Mrs. Morton, Dr. Tristam, and Dr. Merriman. Knowing the great interest these gentlemen have evinced in the work inaugurated by the Earl of Onslow and Mrs. Onslow, the successful restoration of the church must be highly gratifying to them.

A CORRESPONDENT of *The Times* sends an extract of a letter received from the Gold Coast, from which it appears that small-pox is very prevalent and fatal in Acera and some of the towns near the river Volta. There are no surgeons and no hospitals, and the people are dying. It will be remembered that Captain Glover recruited his Houssa troops at Accra.

DURING the month of March there were registered in the eight principal towns of Scotland 3605 births and 2728 deaths; of the latter, 39 per cent. were of children under five years of age. Scarlatina proved very fatal, being credited with 176 deaths. Typhus and enteric fever caused 80 deaths, and small-pox 65 deaths. The mortality from diseases of the heart amounted to 126. The large number of 54 deaths were ascribed to apoplexy, and 66 to paralysis. The deaths from inflammatory affections of the respiratory organs amounted to 552. There were 11 deaths from intemperance, and 2 from delirium tremens.

FROM a table recently collated by the clerk to the Mile-end Old-town vestry, we find that there are now thirty-six analysts in the metropolis, fourteen of whom are also medical officers of health for their districts. Twenty-one analysts are paid by salary, nine by fees, and six by fees and salary. Twenty-five provide the necessary apparatus at their own cost; while in eleven instances such expense is defrayed by the sanitary authorities. A purchaser of a suspected article, wishing to have the same analysed, is charged a fee varying from half-a-crown to ten shillings and sixpence.

AT a meeting of the New York Academy of Medicine, held at the Hall of the College of Physicians and Surgeons, Dr. Austin Flint, President, in the chair, Sir James Paget, F.R.S., Sir William Jenner, F.R.S., and Prof. Richard Owen, F.R.S., were unanimously elected Corresponding Fellows. This election fills the vacancies occasioned by the decease of Sir Henry Holland, M.D., Auguste Nélaton, M.D., and Louis Agassiz, M.D. The Academy has honoured itself by this accession of names so illustrious in science.

IN the reports of the Inspectors of Factories to the Home Secretary, issued on Wednesday last, Mr. Redgrave attributes much of the success of the Acts to the fact that they have been administered by men of some social position as well as of intelligence, and insists on the desirability of the inspecting officer being of a rank in life and education at least equal to the better class of masters. This opinion is a condemnation of sub-inspectors of factories.

THE Sanitary Commissioner, Punjab, in his return for the week ending February 7th, reports that the health of the province generally, as well as that of the large towns, continues good. The total deaths from small-pox have risen from 219 in the previous week to 258. The deaths from this disease in Gurgaon have increased from 9 in the previous week to 37. One death was registered under the head of cholera at Kartapur in the Jalandhar district.

AT the last meeting of the Faculty of Physicians and Surgeons of Glasgow, it was decided that the Faculty be represented at the funeral of the late Dr. Livingstone. The great traveller in 1840 became a licentiate, and in 1857 an honorary fellow of the Faculty.

IN the House of Commons, on Monday last, Mr. Kay Shuttleworth stated that he would, on the 5th May, call attention to the necessity for improving the dwellings of working classes of the metropolis, and introduce a motion thereon.

WE understand that the Hampstead Asylum will shortly be devoted to the reception of imbecile children, male and female, from the metropolitan districts.

ON Tuesday last, Professor Rutherford delivered at the Royal Institution the first of a series of six lectures "On the Nervous System."

THE QUEEN is expected to visit Netley almost immediately to inspect the invalids from the Gold Coast, and it is anticipated that Her Majesty will take that opportunity of viewing the *Victor Emanuel* hospital ship.

THE Council of the College of Surgeons has awarded the Jacksonian Prize for 1873 to Mr. Butlin, the Surgical Registrar at St. Bartholomew's Hospital, for his essay on "Ununited Fractures."

THE CIVIL SERVICE ESTIMATES.

BY the time this number of THE LANCET is in the hands of its readers they will have learnt from the mouth of the Chancellor of the Exchequer what surplus he has to deal with, how it has been produced, and how he elects to dispose of it. In so far as the surplus, whatever it may be, is to result from economised expenditure, it does not appear from the bulky Parliamentary Paper before us that on the cost of the civil administration of the kingdom any material reduction is contemplated. For the financial year 1873–74 the gross amount of the Civil Service Estimates was £19,044,117; for the current year the requirement is £18,800,661, the difference being only £243,456 on the economical side of the account. These sums are inclusive of the Revenue Departments, which alone cost seven millions and a half to work. Excluding the Revenue Departments, we have an estimated expenditure of £11,286,978, distributed under the following seven branches of administration:—I. Public Works and Buildings, £1,297,178; II. Salaries and Expenses of Public Departments, £1,933,356; III. Law and Justice, £4,332,607; IV. Education, Science, and Art, £2,577,398; V. Colonial, Consular, and other Foreign Services, £586,763; VI. Superannuations, Pensions, and Gratuities, £528,196; and VII. Miscellaneous, Special, and Temporary Objects, £31,480. In this last class figures a sum of £700 for a year's maintenance and education of Prince Alamayou Simyen, the son of the late King Theodore of Abyssinia. Happily, we seem to have got out of the Ashantee war without any "white elephants" of the Abyssinian sort being thrown on our hands.

In only one of the above classes (Class IV.) is there an increased charge; on all the others there is a decrease; the net gain on the whole being £306,036.

Subjoined are some details of the year's expenditure, which are likely to be of interest to professional readers, the items being grouped under the office or department to which the service is subordinate:—

LOCAL GOVERNMENT BOARD.

Inspectorate for general purposes: 27 inspectors, sub-inspectors, and assistant-inspectors	£16,300
Travelling expenses and allowances	9,518
Moiety of salaries of Poor-law medical officers; including cost of drugs, medical appliances, and per-case payments, but excluding extra medical fees and fees for midwifery and surgical operations	127,000
Moiety of salaries of medical officers of health, and of inspectors of nuisances, under the Sanitary Acts	70,000
Medical officer of the Board	2,000
Inspector and assistant medical officer	1,100
Inspector and assistant medical officer for general sanitary purposes	1,000
Inspector and assistant medical officer for Poor-law purposes	700
Eight medical inspectors	5,075
Legal assistant to medical officer	934
Travelling and personal expenses of inspectors ...	4,100
Vaccination inspection and expenses	10,132

HOME OFFICE.

Factories inspection: 54 inspectors, assistant-inspectors, and sub-inspectors...	19,513
Travelling expenses and allowances	4,852
Fees to certifying surgeons under the Factories Acts	1,600
Mines inspection: 26 inspectors and assistant-inspectors	14,088
Travelling expenses and allowances	6,500
Burial-grounds inspection: one medical inspector	800
Travelling expenses	200

PRIVY COUNCIL OFFICE.

Auxiliary scientific investigations concerning the causes and processes of disease	2,000
Expenses under the Pharmacy Act	150
Quarantine expenses	2,824
Veterinary department	11,580

BOARD OF TRADE.

Fees for special services to medical inspectors ...	60

Under the head of "temporary commissions" a sum of £900 stands for the completion of the work of the Rivers Pollution Inquiry Commission. The Commissioners are preparing their final report, and they had expected to complete it by this time; but they now find themselves unable to promise its publication before the middle of the present year. This report will be looked for with much interest, as it is expected to deal at large with the important question of water-supply, both for domestic and industrial purposes; and to give the results of investigations into the latest inventions for the purification of town sewage.

In respect of expenditure devoted to kindred purposes in the three divisions of the kingdom, we note that the total cost of the Local Government Board in England is £369,699; of the corresponding department in Ireland, £109,297; and of the Scottish Board of Supervision for Relief of the Poor and for Public Health, £18,248. The imperial share of the cost of registration of marriages, births, and deaths in England is £43,455, in Scotland £6605, and in Ireland £15,452. The supervision of lunatic asylums involves a charge of £14,935 in England, of £5930 in Scotland, and of £3832 in Ireland.

Correspondence.

"Audi alteram partem."

EXAMINATION AND VERIFICATION OF THE BODY OF THE LATE DR. LIVINGSTONE.

To the Editor of THE LANCET.

SIR,—For many years there has probably been no single individual on whom a greater amount of interest has been concentrated throughout the world than Livingstone. Naturally the excitement has been greatest in Britain. In America it has perhaps been all but equal; and wherever British interests extend, the doings, and latterly the fate of this remarkable man have thrilled alike on the hearts and tongues of all who prize some of the most marked features of modern civilisation. Giving every credit to our great philanthropists, to our Houses of Lords and Commons, no single human being has struck more deeply at the roots of all that remained in modern times of the curse of slavery than this simple-minded, noble-hearted missionary, who has served God and man with such force, power, and enduring energy as have never perhaps been exceeded by any other human being.

It is not in the province of such a journal as yours to

comment specially on such themes, and much less is it in mine to refer specially to them in your pages. I cannot, however, but remind you that Livingstone, besides his holy occupation, belonged to our profession. In my own mind I have a strong impression that a considerable portion of his great works resulted from that part of the education which he imbibed in our professional schools, and I therefore look with pride to the fact that his name must ever be enrolled as one of the most remarkable men in our ranks.

Many doubts have attended the movements of our great explorer in his latter years, which will probably be soon cleared up, as his papers become collected and collated. And within the last few months many have hesitated to believe that he was dead. Above all, it seemed beyond ordinary probability that his remains would have been brought from Central Africa to our heart of London. That a body was on its way from this all but mythical region could hardly be doubted after the examination at Zanzibar of the remains; but many were sceptical as to this dead frame being that of Livingstone. Up to within a few days, I may say until between 5 and 6 o'clock this afternoon, even the closest believers in his story felt in the position that they could not affirm more than was the general rumour.

Happily, it was borne in mind by many old friends that he had one condition of body which would mark the identification of his remains even if years and years had elapsed. The skeleton of the human frame being the last part which decays and falls into impalpable dust, it was thought by those who knew some part of his physical condition that if it should be proved, on anatomical examination, the remains of an old ununited fracture in his left humerus (arm bone) could be recognised, all doubt on the subject would be settled at once and for ever.

It has fallen to my lot to have the honour of being selected to make the crucial examination to this end, and I have accordingly performed that duty. From what I have seen I am much impressed with the ingenious manner in which those who have contrived to secure that the body should be carried through the long distance from where Livingstone died until it could reach a place where transit was comparatively easy, accomplished their task. The lower limbs were so severed from the trunk that the length of the bulk of package was reduced to a little over four feet. The soft tissues seem to have been removed to a great extent from the bones, and these latter were so disposed that by doubling and otherwise the shortening was accomplished. The abdominal viscera were absent, and so were those of the chest, including, of course, heart and lungs. There had been made a large opening in front of the abdomen, and through that the native operators had ingeniously contrived to remove the contents of the chest as well as of the abdomen. The skin over chest, sternum, and ribs had been untouched.

Before these points were clearly ascertained, some coarse tapes had to be loosened, which set free some rough linen material—a striped coloured bit of cotton cloth, such as might have been an attractive material for the natives, among whom Livingstone travelled,—a course cotton shirt, which doubtless belonged to the traveller's scanty wardrobe, and in particular a large portion of the bark of a tree, which had formed the principal part of the package—the case thereof no doubt. The skin of the trunk, from the pelvis to the crown of the head, had been untouched. Everywhere was that shrivelling which might have been expected after salting, baking in the sun, and eleven months of time. The features of the face could not be recognised. The hair on the scalp was plentiful, and much longer than he wore it when last in England. A moustache could not be recognised, but whiskers were in abundance. The forehead was in shape such as we are familiar with from memory, and from the pictures and busts now extant. The circumference of the cranium, from the occiput to the brow, was 23¾ in., which was recognised by some present to be in accordance with such measurements when alive.

In particular the arms attracted attention. They lay as if placed in ordinary fashion, each down by the side. The skin and tissues under were on each side shrunk almost to skeleton bulk, and at a glance to practised eyes—there were five, I may say six, professional men present—the state of the left arm was such as to convince everyone present who had examined it during life, that the limb was Livingstone's. Exactly in the region of the attachment of the deltoid to the humerus, there were the indications of an oblique fracture. On moving the arm there were the indications of the ununited fracture. A closer investigation and dissection displayed the false joint which had long ago been so well recognised by those who had examined the arm in former days. The Rev. Dr. Moffat, and in particular, Dr. Kirk, late of Zanzibar, and Dr. Loudon, of Hamilton, in Scotland, at once recognised the condition. Having myself been consulted regarding the state of the limb when Livingstone was last in London, I was convinced that the remains of the great traveller lay before us. Thousands of heads with a like large circumference might have been under similar scrutiny; the skeletons of hundreds of thousands might have been so; the humerus in each might have been perfect; if one or both had been broken during life it would have united again in such a manner that a tyro could easily have detected the peculiarity. The condition of ununited fracture in this locality is exceedingly rare. I say this from my personal professional experience, and that such a specimen should have turned up in London from the centre of Africa, excepting in the body of Dr. Livingstone, where it was known by competent authorities to have existed, is beyond human credibility. It must not be supposed by those who are not professionally acquainted with this kind of lesion—which often causes so much interest to the practical surgeon—that a fracture and new joint of the kind now referred to could have been of recent date or made for a purpose. There were in reality all the indications which the experienced pathologist recognises as infallible, such as the attenuated condition of the two great fragments (common under such circumstances), and the semblance of a new joint, but actually there was a small fragment detached from the others which bore out Livingstone's own view that the bones had been "crunched into splinters." Having had ample opportunity of examining the arm during life, and conversing with Livingstone on the subject, and being one of those who entertained hopes that the last reports of Livingstone's death might, like others, prove false, I approached the examination with an anxious feeling regarding this great and most peculiar crucial test. The first glance at the left arm set my mind at rest, and that, with the further examination, made me as positive as to the identity of these remains as that there has been among us in modern times one of the greatest men of the human race—David Livingstone.

The accompanying extract from Dr. Livingstone's "Missionary Travels and Researches in South Africa," published in 1857, will be read with peculiar interest at the present date. It bears specially upon the matter now in question. The physiology referred to has, I know, attracted special attention from the late Sir Benjamin Brodie and others, and the pathos of his statement of how he meant to have kept the tale of the occurrence "in store to tell my grandchildren when in my dotage," must touch the heart of all who have sympathy with the life-story of this modern hero.

I remain, Sir, your obedient servant,

WM. FERGUSSON.

George-street, Hanover-square, April 15th, 1874.

Extract from "Missionary Travels and Researches in South Africa." By DAVID LIVINGSTONE, LL.D., D.C.L., &c.

"Returning towards Kuruman, I selected the beautiful valley of Mabotsa (lat. 25° 14′ south, long. 26° 30′ 3″) as the site of a missionary station, and thither I removed in 1843. There an occurrence took place, concerning which I have frequently been questioned in England, and which, but for the importunities of friends, I meant to have kept in store to tell my children when in my dotage. The Bakatla of the village Mabotsa were much troubled by lions, which leaped into the cattle-pens by night and destroyed their cows. They even attacked the herds in open day. This was so unusual an occurrence that the people believed that they were bewitched—'given,' as they said, 'into the power of the lions by a neighbouring tribe.' They went once to attack the animals, but, being rather a cowardly people compared

BEST COPY AVAILABLE

to Bechuanas in general on such occasions, they returned without killing any.

"It is well known that if one in a troop of lions is killed, the others take the hint and leave that part of the country. So the next time the herds were attacked, I went with the people, in order to encourage them to rid themselves of the annoyance by destroying one of the marauders. We found the lions on a small hill, about a quarter of a mile in length, and covered with trees. A circle of men was formed round it, and they gradually closed up, ascending pretty near to each other. Being down below on the plain with a native schoolmaster named Mebálwe, a most excellent man, I saw one of the lions sitting on a piece of rock within the now closed circle of men. Mebálwe fired at him before I could, and the ball struck the rock on which the animal was sitting. He bit at the spot struck, as a dog does at a stick or stone thrown at him; then leaping away, broke through the opening circle and escaped unhurt. The men were afraid to attack him, perhaps on account of their belief in witchcraft. When the circle was reformed, we saw two other lions in it, but we were afraid to fire lest we should strike the men, and they allowed the beasts to burst through also. If the Bakatla had acted according to the custom of the country, they would have speared the lions in their attempt to get out. Seeing we could not get them to kill one of the lions, we bent our footsteps towards the village. In going round the end of the hill, however, I saw one of the beasts sitting on a piece of rock as before, but this time he had a little bush in front. Being about thirty yards off, I took a good aim at his body through the bush, and fired both barrels into it. The men then called out, 'He is shot! he is shot!' Others cried, 'He has been shot by another man too; let us go to him!' I did not see any one else shoot at him, but I saw the lion's tail erected in anger behind the bush, and turning to the people, said, 'Stop a little till I load again.' When in the act of ramming down the bullets, I heard a shout. Starting, and looking half round, I saw the lion just in the act of springing upon me. I was upon a little height; he caught my shoulder as he sprang, and we both came to the ground below together. Growling horribly close to my ear, he shook me as a terrier-dog does a rat. The shock produced a stupor similar to that which seems to be felt by a mouse after the first shake of the cat. It caused a sort of dreaminess in which there was no sense of pain nor feeling of terror, though quite conscious of all that was happening. It was like what patients partially under the influence of chloroform describe, who see all the operation, but feel not the knife. This singular condition was not the result of any mental process. The shake annihilated fear, and allowed no sense of horror in looking round at the beast. This peculiar state is probably produced in all animals killed by the carnivora, and, if so, is a merciful provision by our benevolent Creator for lessening the pain of death. Turning round to relieve myself of the weight, as he had one paw on the back of my head, I saw his eyes directed to Mebálwe, who was trying to shoot him, at a distance of ten or fifteen yards. His gun, a flint one, missed fire in both barrels; the lion immediately left me, and attacking Mebálwe, bit his thigh. Another man, whose life I had saved before, after he had been tossed by a buffalo, attempted to spear the lion while he was biting Mebálwe. He left Mebálwe, and caught this man by the shoulder, but at that moment the bullets he had received took effect, and he fell down dead. The whole was the work of a few moments, and must have been his paroxysm of dying rage. In order to take out the charm from him, the Bakatla on the following day made a huge bonfire over the carcase, which was declared to be that of the largest lion they had ever seen. Besides crunching the bone into splinters, he left eleven teeth wounds on the upper part of my arm. A wound from this animal's tooth resembles a gunshot wound; it is generally followed by a great deal of sloughing and discharge, and pains are felt in the part periodically ever afterwards. I had on a tartan jacket on the occasion, and I believe that it wiped off all the virus from the teeth that pierced the flesh, for my two companions in this affray have both suffered from the peculiar pains, while I have escaped with only the inconvenience of a false joint in my limb. The man whose shoulder was wounded showed me his wound actually burst forth afresh on the same month of the following year. This curious point deserves the attention of inquirers."

PROFESSOR PETTENKOFER ON THE EAST LONDON CHOLERA OUTBREAK OF 1866.

To the Editor of THE LANCET.

SIR,—Your correspondent "X." compels me to break the silence I have hitherto maintained respecting the reiteration by Professor Pettenkofer of the statements to which he refers. "X." has still to learn that there is a kind of reasoning to which an answer should not be needed, and of this kind is the particular reasoning of Professor Pettenkofer which appears to have puzzled him. When Professor Pettenkofer persistently attributes to a person with whom he chances to disagree a statement which involves an obvious absurdity, as per example that the water of a river runs up-stream, it surely should be apparent that the learned professor puts himself outside the limits of serious, and, indeed, of courteous argument. When again he adopts an argument which implies that there is as much reason to believe in coal-gas becoming a localising cause of cholera as in a water-supply so becoming, it ought not to be necessary to show that such reasoning is fallacious. Professor Pettenkofer is not in the least relieved from the responsibility of this reasoning because it is founded upon assertions of Dr. Letheby, and is simply a repetition of certain arguments of that gentleman. As it would appear, however, that there are persons who cannot see their way clearly through arguments of this kind, I presume that it is incumbent upon me, however unwillingly, now that I am appealed to by "X.," to come to their assistance. The task is fortunately brief, for I begrudge the time to be given to it. Life is not sufficiently long to admit of being wasted on fictitious reasonings of the sort under consideration.

First as to the question of the river Lea running against its course:—Professor Pettenkofer says, in his article on Cholera in Ships, "a single choleraic evacuation is supposed to have poisoned the river Lea, to have gone up stream," &c. I, in my official report, described "the *discharges* of the first *two* patients who died of epidemic cholera in the east district of London," and the sewage of a house in which a fatal case of choleraic diarrhœa had occurred, as passing into the river Lea in a part of its course where the river was a *locked* navigable canal, the water in which had usually only such motion as is given by the influx and efflux of the tide when the latter rises above the level of the ponded water. That the up-current from the influx of the tide extended beyond the works of the East London Water Company was simply matter of observation. The canal at the time of the outbreak of cholera was a vast cesspool receiving the sewage of a large population, and which had not been flushed for several months by the lower lock gates being left open during an ebb tide.

As to the gas question, Professor Pettenkofer, quoting from Dr. Letheby, says:—"Had the idea arisen anywhere that there was a connexion between cholera and the supply of gas, just as much coincidence could be shown in reference to the Commercial Gas Company, as in reference to the East London Waterworks Company, with the additional fact that the first case of cholera occurred in the gas factory." Professor Pettenkofer may be exonerated from any suspicion of knowing what the facts were of this asserted coincidence of area of the Commercial Gas Company's district of supply and the area of the cholera outbreak in East London, but he cannot be excused for adopting an argument which implies that the evidence of the transmissibility of cholera through a water-supply is of the same character as if it had been assumed that cholera could be transmitted through a gas-supply. But even granting for a moment the assumption of possible transmission of cholera through a gas-supply, how do the facts stand in relation to the East London outbreak of cholera? They stand thus:—The area of the outbreak at the time of the outbreak received its gas-supply from *four* different gas companies—the Commercial, the Ratcliff, the Victoria Dock (now amalgamated with another Company), and the West Ham. Two of these companies distributed their supplies to that portion of the area of the outbreak which lay to the west of the river Lea and Bow Creek, the other to that portion which lay to the east of the same stream and creek. The incidence of the outbreak was greatest within the district of the Ratcliff Gas

Company. This was the actual state of things which Dr. Letheby described as promoting "just as much coincidence" between the area of the outbreak and the Commercial Gas Company's district of supply, as between the area of the outbreak and the East London Water Company's district of supply. In the same fashion Dr. Letheby described the river Lea in its course by East London, as if it were an ordinary running stream. The statement that the first case of cholera in East London in 1866 occurred in the Commercial Gas Company's factory is peculiar to Dr. Letheby alone.

Now, I have always felt, and still feel, that the use and repetition of arguments like the above, by Prof. Pettenkofer, have a utility in respect to his researches on cholera of no mean importance. It is disheartening, I admit, to know that a man in Prof. Pettenkofer's position should assign a higher value to the above sort of assertion by Dr. Letheby, than to the facts circumstantially stated by Dr. Farr and myself. But there is this important set-off. In endeavouring to follow Prof. Pettenkofer through the intricacies of his various papers on Cholera, the occurrence of the foregoing assertions as to the East London cholera outbreak serves as a valuable warning against probable fallacies in fact and argument.

In conclusion, permit me to thank "X." for his apt description of my oratorical method when I have the ill-luck to get on to my legs in discussion. I thank him particularly for the comparison with so honest a liquor as ginger-beer. Other effervescent liquors we dare not accept, unless on a warrant of an analytical chemist, and now, alas! it would appear not even then.

I am, Sir, your obedient servant,

April 13th, 1874. J. NETTEN RADCLIFFE.

THE HOSPITAL FOR WOMEN.

To the Editor of THE LANCET.

SIR,—Referring to the editorial article on "The Hospital for Women" in THE LANCET of April 4th, since my name has been brought prominently forward in your remarks, I feel it to be due, not only to myself and to my late colleagues, but to the profession generally, to publish a statement of facts in relation to the late unhappy occurrences so far as I am personally concerned. I therefore request you will do me the favour to give this a place in your next issue. I have sent similar replies to other journals in which I have been in like manner mentioned.

With regard to the amended Bye-law 19, I was wholly ignorant of its purport until December 17th, at the meeting of the committee, after notice of such motion had been given, and had been afterwards adopted and made law at the previous meeting of December 6th, at which time I was in attendance for several days on a patient in the country. When it was brought to my notice I begged at once to forgo the distinction given to me as Founder of the Hospital, and to be put on the same footing as my colleagues, and I immediately protested against the amended Bye-law 19. As my efforts to counteract it were, however, unsuccessful, I tendered my resignation as member of the committee, but at their urgent request I consented to withdraw it. Feeling, however, it was not incumbent on me to bear the burden of responsibility, without the power of giving effect to my efforts, I ceased to attend their meetings, and on January 7th I joined my colleagues in a letter to the committee, stating our objections to the amended Bye-law 19. Although afterwards it was made wholly inoperative during the tenure of office of the then present medical staff, I felt it to be right to discontinue the position I held as sole medical member of the general committee, and, therefore, I again tendered my resignation on the 28th of March, which was accepted.

I was induced to withhold my consent to the action of those members of the Medical Committee who have since left the hospital, because they rejected the rules of the customary Medical Committee, and took upon themselves, as medical staff, the power of an inquisition to make judicial inquiry into the private character of the matron, and to call upon certain nurses to corroborate their charges. They also requested the house-physician, who had before resigned his post, to give a written statement of his reasons for so doing, and of his opinion of the matron and nurses, and that although I had strongly protested against such proceedings as both beyond and beneath our province as physicians and surgeons, and as a usurpation of the rights of the General Committee, who alone had the power to adjudicate in such matters, and before whom their complaints should have been carried. I was confirmed in the conviction I had acted rightly when, on my return to town, I was told that my colleagues had arranged to tender their resignations should their appeal to the Committee, with the house-physician's letter, fail to gain their point. Although this resolution, which was submitted to me, was not acted upon, yet I could not join these gentlemen in what I regarded to be "gratuitous and uncalled for," inasmuch as, with the exception of the amended Bye-law 19, I differed from them entirely—viz., as regarded our right to arraign the matron and nurses, and to hold out the threat of resignation to the Committee, and thus to injure a charity with which we had been so long associated, and through whose instrumentality such extensive good has been effected.

After this statement I hope it will be seen that in the part I have taken I have been actuated by a desire to do what is right towards my colleagues and the profession, and at the same time to promote the welfare of a charity in which I have so long taken a deep interest.

I am, Sir, your obedient servant,

PROTHEROE SMITH.

Park-street, Grosvenor-square, April 11th, 1874.

*** Dr. Protheroe Smith's letter does not appear to us in any way to contradict our statement that he "sided with the committee rather than with his colleagues," and only brings out with greater force his opinion that "the due performance of their duty by the matron and nurses was no concern of the medical officers," an opinion in which he probably stands alone. By his own showing, Dr. Smith was a member of the committee until March 28th, and, therefore, necessarily, as was said in the article referred to, "he shares the responsibility for the insulting letter sent by the secretary to the medical staff" on March 11th.—ED. L.

BIRMINGHAM

(From our own Correspondent.)

BIRMINGHAM, though showing a death-rate of only 24 per 1000, is at present face to face with a serious epidemic of small-pox. In the week ending the 10th inst., 43 fresh cases were admitted into the special wards at the workhouse, 16 were discharged, 8 died, and 118 cases remained in the hospital. Many of the cases admitted are of a virulent confluent type, and throughout the town the disease is spreading with a certainty and rapidity which are undoubted. The accommodation at the workhouse is already insufficient, the present wards being crowded, and fresh wards are now being erected to provide for those suffering from the disease. The Local Government Board have called the attention of the Town Council of the borough to the prevalence of the disease, and that body is endeavouring to secure a building for the reception of patients, other than paupers, who may be affected with variola. This step ought to have been taken long ago. Persons of the middle class will not send members of their families to wards in proximity to the workhouse, and under the control of the board of guardians, but they would send them to a special hospital where there was no suspicion of their having association with paupers. Immediate removal of all the cases spread about the town (the number, according to the officer of health, being now 456), and complete isolation of the patients in a special hospital or hospitals, will alone mitigate the prevalence of the epidemic. The guardians have done their duty to the best of their ability, and it now remains for the Town Council, as the sanitary authority of the borough, to do theirs.

A valuable report for the year 1873, from Dr. May, the medical officer of health for the district of Aston, a thickly-built suburb of Birmingham, containing an estimated population of nearly 38,000, was laid before the Aston Local

Board recently. Dr. May, though able to congratulate the board that the annual death-rate was only 19 per 1000, was obliged to call their attention to the fact that the percentage of deaths under one year to the total number of deaths was 33·7 per cent., whereas the rate for the rest of England was only 25·2 per cent. Neglect of infants by mothers working in factories is probably the chief cause of this high rate of mortality.

The last two meetings of the Midland Medical Society have been largely attended. At the first, among the specimens, Dr. Savage showed an aneurism of the arch of the aorta taken from a bitch which had died suddenly from rupture into the pericardium; Mr. Gamgee read a paper "On the Radical Cure of Varicocele," after which there was an animated discussion. At the second meeting Dr. Sawyer exhibited an improved laryngoscope; Mr. Ross Jordan showed a recto-uterine cystic tumour, and gave the history of the case—also an improved inflatable stem pessary; Mr. Thomas exhibited a specimen of patent foramen ovale from an adult over thirty years of age; and Mr. Wilders contributed a specimen of necrosis of the femur. Dr. Malins gave a demonstration of the operations of cranioclasm and cephalotripsy.

Mr. Wilders, one of the surgeons of the Queen's Hospital, who has long been associated with Queen's College as an able lecturer on materia medica, has been elected to the joint chair of forensic medicine in that institution in place of the late Mr. Swain.

Dr. Rickards, who for some years has been pathological and resident physician at the General Hospital, has been unanimously elected to the position of one of its physicians.

A new office has been created at the Queen's Hospital—that of pathologist. He will rank as one of the honorary officers, and take a share of the clinical fees. Several good surgeons are spoken of as candidates for the post, and no doubt the one that presents the highest professional claims will be elected, as the decision as to the merits of the candidates will be made by the medical staff, although the appointment will be made by the general committee.

The annual report of the Queen's Hospital shows that although the number of patients steadily increases, the funds are quite inadequate to meet the requirements of the committee, who are already £8000 in debt. The invested capital has been spent, and unless the finances of the charity are substantially recruited by the appeal now being made to the town, some of the beds will have to remain unoccupied.

A new hospital for contagious diseases is to be erected at Warwick at a cost of £700, to provide for the wants of that town, Leamington, and Milverton.

Mr. Wilders has under his care, at the Queen's Hospital, a case of popliteal aneurism, caused by dancing the "Cancan," in an actor, aged twenty-two, which he has cured by ligature of the femoral artery, after the failure of flexion, digital compression, and Bellingham's weight with ice-bags on the aneurism. He has also been successful in treating two cases of stricture of the urethra by internal urethrotomy with Civiale's instrument cutting from behind forwards. Mr. Gamgee recently trephined the skull in a case of fracture with depression with a good result. Dr. Mackey has under his care a lad aged nine, admitted with pleuritic effusion causing complete dulness over the left side and the heart to beat at the right nipple. In the presence of urgent symptoms, aspiration was performed some weeks ago, and repeated afterwards to about thirty ounces of albuminous and fatty serum. The boy is improving under iron, quinine, and cod-liver oil. It is curious in this case to note that the urine is alternately acid and alkaline, without apparent change in his condition. Dr. Mackey speaks favourably of an emulsion of cod-oil with hypophosphite of lime, prepared for him by Messrs. Southall, of a more fluid form than the preparation first used, and flavoured with vanilla, pine-apple, &c., and says that it is readily taken by ladies and children.

Birmingham, April 11th, 1874.

VACCINATION AWARDS.—Mr. W. E. Ledgard, medical officer and public vaccinator of the third division of the Ripon Union, and Dr. Clarke, medical officer to the Putney district of the Wandsworth and Clapham Union, have received grants from the Local Government Board.

Obituary.

JOHN McLENNAN, M.D., F.R.C.P. LOND.,

LATE PHYSICIAN-GENERAL OF THE BOMBAY ARMY.

DR. MCLENNAN died suddenly, in the seventy-second year of his age, at his residence, 101, Harley-street, on Sunday, April 5th.

Nearly twenty years have passed since Dr. McLennan retired from the Indian service, but his distinguished career is still fresh in the memory of his contemporaries, and has left a permanent record on the departments over which he presided.

After completing his general and professional education at the High School and University of Edinburgh, Dr. McLennan was appointed an assistant-surgeon in the East India Company's service on the Bombay establishment, and he left England in May, 1821. In 1823 he was appointed assistant-surgeon of the European General Hospital, and superintendent of the first school established in Bombay for native medical education. The necessary text-books were prepared by him in the Hindostanee and Mahrattee languages, and the school received his devoted attention till its abolition in 1832. Therefrom Dr. McLennan was promoted to the surgeoncy of the Native General Hospital, and to the office of Presidency civil surgeon. From 1827 to 1846 he took the lead in medical practice in Bombay. His success was great, not only because his own care was unremitting, but because he also inspired all who were in attendance on the sick with the same watchful solicitude.

At length continuous years of devoted labour such as this, in the climate of Bombay, began to tell on Dr. McLennan's naturally vigorous constitution, and he was obliged, at the end of 1836, to seek rest for a season. He was absent during 1837. He travelled to Cosseir by the Red Sea, thence down the Nile, visiting Palestine also before his return, and thus increasing his knowledge of the languages and of the people of Eastern countries.

From 1840 to 1843 Dr. McLennan was surgeon of the European General Hospital. He then became medical storekeeper, and resigned the civil surgeoncy. In 1845 he was promoted to the superintending surgeoncy of the Presidency division. His official duties now became administrative, and he retired from private practice.

In 1848 Dr. McLennan was appointed a member of the Medical Board. He was absent in England in 1849, when he became a member of the Royal College of Physicians of London by examination, and shortly afterwards was elected a fellow. In 1850 he returned to Bombay and resumed his place as Physician-General of the Army—the head of the medical department.

Dr. McLennan gave his attention to all matters important to the sanitary welfare of the soldier and of the general community. He elevated the character and acquirements of the hospital assistants. He improved the dietaries, and fixed at a high standard the cubic space for hospitals and barracks. He was thoroughly conversant with the laws of health, and the causes and means of prevention of disease at the time known to science, and this knowledge he applied to the extent of his power. He knew, however, that this power was limited, for public sanitary work required an educated Government and an educated community, as well as a scientific profession of medicine, and the first two conditions were only then beginning to be developed. The Board of Education of Bombay was established in 1840, and from that time to its abolition in 1855, Dr. McLennan was a leading member, and took great interest in the education of the people of India.

Though Dr. McLennan did not himself contribute to the literature of medicine, he warmly supported the efforts of others, as appears in his relation to the Medical and Physical Society of Bombay, of which he was president for several successive years, and also in the preface to Dr. Morehead's "Clinical Researches on Disease in India."

Dr. McLennan's retirement on the 26th January, 1855, after thirty-four years' service, was announced in the official gazette of the Government in just terms of the highest commendation, and a public meeting was held to commemorate his honourable and useful career by the endowment of an

annual scholarship and prize medal in connexion with Grant Medical College.

On his way from India, Dr. McLennan was for a short time with the army before Sebastopol, visiting his valued friend Sir John Hall, the Inspector-General of Hospitals. After arriving in England, his active mind at once began to engage in congenial pursuits. He became a member of the Royal Institution, and for several years attended regularly the courses of lectures. He also travelled much, visiting the chief countries in Europe, observing their institutions, and making ample notes of all that he saw.

About nine years since, Dr. McLennan suffered from a severe attack of illness, which left his powers considerably enfeebled; still, through the professional skill and friendly watchfulness of Dr. Williams, and the tender care of an attached circle of relations and friends, he experienced, even to the very close of life, much comfort and quiet social literary enjoyment.

JEAN CRUVEILHIER.

THIS great French physician was born at Limoges on the 9th of February, 1791. He pursued his medical studies at Paris under the famous Dupuytren. He graduated as Doctor of Medicine in 1816, his inaugural thesis being a remarkable disquisition on pathological anatomy. Compelled by family reasons to return to Limoges, he settled in practice there. But he soon came back to "the Lutetia of the ancients and the Lætitia of the moderns," and was received as first at the Concourse of Aggregation. Some time thereafter he was called to Montpellier to occupy a chair in the medical faculty of that city. In 1822 appeared the first volume of his "Traité de Médecine Opératoire éclairée par l'Anatomie et la Physiologie." In 1825, on the death of Béclard, M. Frayssinons, Grand Master of the University, demanded for the post a man of whom he knew the religious tendencies, and chose Cruveilhier. He betook himself again to anatomy with characteristic ardour. He reconstituted in 1826 the old Anatomical Society. His course of prelections, prepared with infinite pains, rapidly became the most popular of the day. This course appeared in print, in four volumes octavo, from 1834 to 1838. Meanwhile other duties had recalled Cruveilhier to the object of his earliest studies, pathological anatomy. Successively physician to the Maternité, the Salpétrière, the Charité, he profited by the immense materials which his appointment placed at his disposal to commence his splendid work entitled "Anatomie Pathologique du Corps Humain, ou Description avec figures lithographiées et coloriées des diverses Altérations Morbides dont le Corps Humain est susceptible" (1829 to 1840, two vols. imperial folio, with 233 plates). By this *chef d'œuvre* he established his claim to the new chair of Pathological Anatomy created by Dupuytren. He was installed on August 3rd, 1835. In the following year he entered the Academy of Medicine. In 1863, on the 14th of August, he was made Commander of the Legion of Honour. Without counting his numerous memoirs in the Bulletin of the Academy of Medicine, he published in 1837 his "Discours sur les Devoirs et la Moralité du Médecin"; his "Vie de Dupuytren"; "Anatomie du Système Nerveux de l'Homme, representée par des planches de grandeur naturelle" (1845, folio); his "Traité d'Anatomie Descriptive" (1851); his "Traité d'Anatomie Pathologique Générale" (1849–64, five vols. octavo), &c. &c.

We have already referred to his personal and moral characteristics, to his religious devotedness, to his large-hearted and free-handed philanthropy, and to the time and place of his death. His biographer, at the appropriate opportunity, will not fail to indicate the many attributes which made him an exemplar to generations of medical students yet unborn. We have but to cite a few passages from the *oraison funèbre* pronounced over his grave by his friend and pupil M. Bardinet, head master of the Medical School at Limoges:—"Cruveilheir," said he, "was distinguished, not only by a superior intellect, but also by the noblest qualities of the heart. All men admired his unswerving rectitude, his genuine simplicity, his equanimity of temper, which remained unruffled by the breath of calumny. He was enthusiastically devoted to his patients and to science. His industry was unflagging, and he scarcely allowed himself the indispensable repose. Literary labour, hospital practice, patients at home and abroad, faculty engagements, lecturing, and so on, absorbed eighteen or nineteen of the twenty-four hours; and this Herculean work was carried on for many long years. Rarely has a man of science been so thoroughly kind and considerate to his patients; rarely have the latter more warmly reciprocated a welcome so sympathising. M. Cruveilhier regularly spent his holidays in his native province, and at those times actual processions of patients flocked to his villa at Lussac, where they always found him exquisitely attentive. The poor he ever received well; and his name is venerated far and wide throughout the province of Limousin. Some years ago he visited the locality to preside at the unveiling of the statue of Dupuytren, his former master; and, on this occasion, his professional brethren and the medical school gave him an enthusiastic reception. But incessant work at last compelled this bright and far-reflected luminary of medicine to seek rest in his native home, which he enjoyed for many years, remaining steadfast to the last in the religious faith which he cherished from the dawn of his youth to the sunset of his life." A movement, we believe, is on foot to perpetuate the outward presence of the illustrious deceased in marble or in bronze.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the primary examination in Anatomy and Physiology on the 9th, 10th, 13th, and 14th inst.:—

H. J. M'C. Todd, S. J. Sharkey, G. H. Wilkins, F. H. Peck, W. Tyrrell, A. D. Davidson, J. S. Lush, C. E. Pronger, A. R. Isles, J. A. Hunt, J. F. Nicholson, C. H. White, and P. H. E. Freund, St. Thomas's Hospital; C. W. M. Moullin, L. B. Calcott, W. R. Pearless, J. H. Simpson, F. S. Edwards, A. Upton, F. E. Woodward, A. G. Williams, T. J. Verrall, J. W. Roughton, W. Pye, A. Edwards, R. Clapp, H. P. Dunn, H. Sloman, and H. F. Weiss, St. Bartholomew's Hosp.; H. L. Champneys, R. Bevan, W. P. Reynolds, J. Davies, G. P. Mallam, G. E. Miles, G. E. Chadwick, C. F. Pickering, J. Mackern, T. R. Judson, H. W. Roberts, W. M. Evans, and A. F. Wilson, Guy's Hospital; E. A. Saunders, A. James, W. A. Stephenson, J. S. Pearse, S. H. Burton, H. L. Crocker, G. H. B. Fisk, A. G. Don, T. C. Mugliston, J. Moore, A. Rees, D. Jones, J. S. Bury, J. B. Biarney, S. Cook, J. W. Hunt, T. M. Pinnell, and A. Aplin, University College; C. M. Poole, E. D. Farmar, E. V. Perry, J. R. W. Webb, and E. B. Turner, St. George's Hospital; A. Charmer, J. A. Brown, W. R. Harrby, S. Stanley, J. J. Mackay, J. Symons, W. S. Roberts, G. J. Kellie, A. W. May, A. P. Green, and N. J. C. Tirard, King's College; G. A. Hunt, Aberdeen and Guy's Hospital; D. V. Rees, H. T. Batchelor, J. Neylen, T. Chant, W. R. Stewart, L. F. Mahony, and W. P. Mears, London Hospital; W. G. Clements, A. Lucas, and E. Harrison, Middlesex Hospital; P. B. Conolly, E. M. Rodwell, and J. G. B. Blackman, Charing-cross Hospital; J. G. Garbutt, H. Manders, A. S. Brown, and M. H. Smith, St. Mary's Hospital; T. Duke, Charing-cross and Guy's Hospitals; R. Clarke and W. J. Quicke, Westminster Hospital.

Of the 192 candidates examined during the last and present weeks, 35 failed to satisfy the Court of Examiners, and were referred to their anatomical and physiological studies for three months.

[In the list of gentlemen who passed the Primary Examination on the 7th and 8th inst., published on April 11th, for "C. J. Davis" read C. J. Devis.]

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on April 9th:—

Bate, George, Camelford, Cornwall.
Crawshaw, Benjamin, Accrington, Lancashire.
Dawson, Richard Stratheden, Ootacamund, Madras.

The following gentleman passed his Primary Professional Examination on the same day:—

Weddell, William Henry, St. Mary's Hospital.

THE Infanticide Bill was read a second time on Monday.

THE next house-dinner of the Medical Club will take place on Friday, May 1st, on which occasion Sir Charles McGrigor, Bart., will preside.

MR. FRANK GODFREY, late resident assistant-surgeon at H.M.'s convict prison, Gibraltar, retires from the convict service on abolition of office, receiving £1429 3s. in lump sum in lieu of pension.

MR. ROBERT FREELAND, of Gryffe Castle, bequeathed £4000 to the Western Infirmary, Glasgow, and £1000 to the Ophthalmic Institution, Glasgow. The Cancer Hospital has received £200 from "H. E. W."

THE LATE DR. BOWER.—At the last Quarter Session for Staffordshire, the Earl of Shrewsbury, as Chairman of the Visiting Committee of Justices of the County Lunatic Asylum, at Stafford, formally apprised the Court of the death of Dr. Bower, the Medical Superintendent, and stated that the following resolution had been passed:—"That the Committee deeply regrets the lamented decease of the late Medical Superintendent, Dr. Bower, and feel it not only incumbent on them, but also a melancholy pleasure, to place on their minutes their expression of the deep sense they entertain of the valuable services afforded to the asylum by him, and the great loss the county has sustained by the death of so valuable a servant."

PRESENTATIONS.—A handsome timepiece, tazzas, and candelabra were presented by the medical staff of the postal service to Dr. Waller Lewis, chief medical officer General Post Office, on the occasion of his recent marriage. The subscriptions, confined to this body and limited in amount, were accompanied by a number of gratifying and cordial letters from all parts of the kingdom, and regrets expressed that the contributions should have been fixed at so low a rate. Dr. Lewis has been in his present position for nearly twenty years, and it is pleasant to witness that the urbanity and good feeling he has shown to his colleagues in the service has been appreciated and thus pleasantly expressed.—At a late meeting of the governors of the Torbay Infirmary, a handsome testimonial, consisting of plate, was presented to Dr. Powell on relinquishing the office of house-surgeon to the institution, the duties of which he had diligently performed for the prolonged period of eight years.

Medical Appointments.

ATKINSON, W. M., M.R.C.S.E., has been appointed Medical Officer for Out-patients of the Royal Portsmouth, Portsea, and Gosport Hospital, vice Owen, appointed a Medical Officer for In-patients.

BENHAM, W. T., M.D. (Assistant Medical Officer at the Bristol City and County Asylum), has been appointed Pathologist and Assistant Medical Officer to the West Riding Asylum, Wakefield.

BLYTH, A. W., M.R.C.S.E., has been appointed Public Analyst for Devonshire: £2 10s. for each report under Sect. 7; 21s. per each analysis under Sect. 6; 7s. for each analysis under Sect. 9; 10s. 6d. per day for attending as a witness within two miles, 21s. per day if beyond that distance, and 3d. per mile each way, or, if a railway available, second-class railway fare.

BOYS, Mr. A. H. (St. Thomas's Hospital), has been appointed a Resident Clinical Assistant at the Hospital for Consumption and Diseases of the Chest, Brompton, vice Peacey, whose appointment has expired.

CORSCADDEN, G. R., L.R.C.S.I., has been appointed Assistant House-Surgeon to the North Dispensary, Liverpool, vice Heath, resigned.

DAVIDSON, P. M., L.F.P. & S. Glas., has been appointed Medical Officer and Public Vaccinator for the newly formed Eaton and Marton District of the Macclesfield Union.

DORAN, A. H. G., M.R.C.S.E., L.S.A.L. (Anatomical Assistant to the Museum of the Royal College of Surgeons), has been appointed Surgeon to the Metropolitan Dispensary, Fore-street, Cripplegate, vice Cumberbatch, resigned.

EDIS, A. W., M.D., M.R.C.P.L., has been appointed Assistant Obstetric Physician to the Middlesex Hospital.

EVANS, G. H., M.D., M.R.C.P.L., has been appointed an Assistant-Physician to the Middlesex Hospital, vice Murray, deceased.

FISHER, G., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Albury District of the Guildford Union, vice Furnivall, resigned.

HOGG, R. B., M.R.C.S.E., has been appointed an Honorary District Surgeon of the Royal South London Dispensary, vice Taylor, resigned on account of ill-health.

HUNT, H. J., L.R.C.P.L., M.R.C.S.E., has been appointed Hon. Surgeon to the Petworth Fire Brigade, vice Morris, deceased.

LEE, P., M.R.C.S.E., has been appointed a Surgeon-Superintendent in H.M.'s New Zealand Government Emigration Commission.

LESLIE, L., M.D., has been appointed Medical Officer of Health for District No. 1 of the Alton Union: £20 per annum.

MAC QUEEN, T., M.B., C.M., has been appointed Resident Medical Officer to the Royal Hospital for Sick Children, Edinburgh, vice Logie, resigned.

MURRELL, Mr. W. (University College Hospital), has been appointed a Resident Clinical Assistant at the Hospital for Consumption and Diseases of the Chest, Brompton, vice Crocker, whose appointment has expired.

ORMSBY, G. H., L.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer and Public Vaccinator for the Whitmore District of the Newcastle-under-Lyme Union, vice Roberts, resigned.

PARKINSON, E. W., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for No. 4 District of the Royston Union, vice Carver, resigned.

RENTON, W., L.R.C.P.Ed., L.R.C.S.E., has been appointed Medical Officer for the Knaresborough District of the Knaresborough Union, vice Wright, resigned.

SHEPPARD, W., M.D., has been appointed Medical Officer of Health for District No. 3 of the Alton Union: £20 per annum.

STAINTHORPE, T., M.D., F.R.C.S.E., L.R.C.P.L., L.S.A.L., has been reappointed Chairman of the Hexham Urban Sanitary Authority.

TURNER, A. C., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Visitor of Denmark House Lunatic Asylum, St. Neots, vice Rix, resigned.

TURNER, J. S., M.R.C.S.E., L.D.S., has been appointed Dental Surgeon to the Middlesex Hospital.

URQUHART, A. R., M.B., C.M., has been appointed Assistant Medical Officer to the Berkshire Lunatic Asylum, Moulsford, vice Birt, resigned.

WADDELL, J. C., M.D., has been appointed Assistant-Surgeon to the 1st Norfolk Rifles (Norwich Regiment), vice Gibson, resigned.

WILSON, T., L.R.C.P.Ed., has been appointed Medical Officer of Health for District No. 2 of the Alton Union: £22 per annum.

WOODS, J., L.R.C.P.Ed., has been appointed Medical Officer of Health for District No. 4 of the Alton Union: £20 per annum.

[In the following list—under the Public Heath Act, 1872—the letters "P.S.D." signify Port Sanitary District, "R.S.D." Rural Sanitary District, and "U.S.D." Urban Sanitary District.]

Districts, and Medical Officers.	*Salary per ann.*	*Area in Acres.*	*Population.*
Bangor and Beaumaris, R.S.D.—viz.:			
Anglesey No. 1 Sub-dist.—Mr. David K. Jones	£21 5s.	11082	4546
" " 2 " Mr. Lewis Jones ...	£18 16s.	12080	4271
" " 3 " Mr. T. Jones Jones	£15	13318	3618
Carnarvonsh. No. 1 Sub-dist.—Mr. W. Williams	£25	10697	12838
" " 2 " Mr. H. Hughes	£20	19588	11132
Barnstaple, U.S.D.—Mr. Andrew Fernie	Not fixed	—	12000
Barton St. Mary, U.S.D. } Barton St. Michael, U.S.D. } Mr. G. A. H. Hepworth	£45	678	6500
	£15	83	2200
Bedlingtonshire, U.S.D.—Mr. Benj. Mac Laren ...	£40	9011	13494
Beverley, U.S.D.—Mr. Wm. Stephenson	£40	2160	10218
Bicester King's-end, U.S.D.—Mr. W. Drinkwater	£4	1432	310
Bridgend and Cowbridge, R.S.D.—viz.:			
Eastern Sub-district—Mr. Edward Bates ...	£25	32939	6450
Northern " Dr. John Davies ...	£10	10875	1883
Central " Mr. Abraham J. Verity	£25	31977	5125
Western " Mr. Michael Allen ...	£10	28805	8755
Carnarvon, R.S.D.—viz.:			
Carnarvon Nos. 1 & 2 } Mr. Thos. S. Foster ... } Sub-districts } Mr. W. W. Roberts ... }	£10 / £10	10676	11195
Llandwrog Sub-district—Dr. J. Williams ...	£15	30227	10995
Llanidan " Mr. Owen E. Owen...	£12 10s.	13863	3394
Llanrug " Mr. John Jones ...	£15	28639	13467
Chorley, Cheshire, U.S.D.—Mr. Byron Booth ...	—	—	1643
Christchurch, Mon., U.S.D.—Dr. Benj. Davies ...	Not fixed	230	2408
Crediton, U.S.D.—Mr. John A. Edwards	£7	2400	4230
Darton, U.S.D.—Mr. Chas. H. Wainwright ...	£20	4102	5197
East Vale, U.S.D.—Mr. Robt. Thorburn	£10	20	1500
Gloucester, U.S.D.—Mr. John P. Wilton	£100	415	16500
Godalming, U.S.D.—Mr. Wm. Parson	£10 10s.	88	2444
Gravesend, U.S.D.—Dr. James H. Gramshaw ...	£40	—	20000
Heage, U.S.D.—Mr. Edward Gaylor	£5	2278	2195
Hurst, U.S.D.—Mr. John Galt...	£16	1800	5432
Lancaster, U.S.D.—Mr. Wm. Watson	£50	1345	17348
Littleborough, U.S.D.—Mr. Geo. Mac Gill	£25	2300	9000
Martley, R.S.D.—Mr. Geo. E. Hyde	£100	53002	16292
Newcastle-under-Lyme, R.S.D.—Dr. J. P. Warburton	£30	18360	5733
Poulton, Bare, and Torrisholme, U.S.D. } Mr. Wm. Watson...	£30	1620	3005

Births, Marriages, and Deaths.

BIRTHS.

AUSTEN.—On the 8th inst., at Ramsgate, the wife of J. Austen, L.R.C.P.L., of a son.

BENJAFIELD.—On the 19th of Feb., the wife of Harry Benjafield, M.B., of Hobart Town, Tasmania, of a daughter.

CHILD.—On the 9th inst., at New Malden, the wife of E. Child, M.R.C.S.E., of a son.

GWYNN.—On the 7th inst., at Hampstead-hill-gardens, the wife of Edmund Gwynn, M.D., of a son.

MAXWELL.—On the 13th inst., at Stickney, near Boston, the wife of P. Maxwell, M.D., of twins (boys).

RUTHERFORD.—On the 9th inst., at Tigh-na-linne, the wife of James Rutherford, M.D., F.R.C.P.E., Medical Superintendent of the Argyle and Bute Asylum, of a daughter.

TURLE.—On the 12th inst., at Cromwell Villa, Finchley-road, the wife of James Turle, M.D., of a daughter.

MARRIAGES.

MARTIN—ILES.—On the 9th inst., at the Parish Church, Fairford, Paulin Martin, M.R.C.S.E., of Abingdon, Berks, to Mary, eldest daughter of the late Albert Iles, M.D., of The Croft House, Fairford, Gloucestershire.

SLATOR—SHOOBRIDGE.—On the 8th inst., at St. Peter's, Old Malden, Thomas Slator, L.R.C.P.Ed., of Ripon, to Susanna Augusta, eldest daughter of the late Joseph Gisbrook Shoobridge, Esq., of Worcester-park, Surrey.

DEATHS.

ADAMS.—On the 10th inst., at Woolwich (of rheumatic fever), Robt. Adams, M.D., Surgeon Army Medical Department.

BAYFIELD.—On the 7th inst., at Maryland-road, Harrow-road, S. J. Bayfield, M.R.C.S.E., late of St. Thomas-street, Southwark, aged 69.

BEGG.—On the 8th inst., A. H. Begg, M.B., of Edinburgh, aged 32.

BRYCE.—On the 8th inst., Chas. Bryce, M.D., of Old Steine, Brighton, aged 70.

CATES.—On the 8th inst., John Cates, M.R.C.S.E., of Avenue-road, Clapton, aged 74.

CRYAN.—On the 5th inst., Peter Cryan, M.D., of Boyle, Co. Roscommon, aged 76.

HERRICK.—At West-view, Blackrock, Cork, Geo. Herrick, M.D., late of Toronto, Canada West, aged 82.

HEWITSON.—On the 5th inst., at the Royal Grammar School, Hexham, Charles, third son of William Hewitson, M.R.C.S.E., of Allenheads, Northumberland, aged 12.

PEACH.—On the 9th inst., Thos. Peach, M.D., of Langley Hall, near Derby (for some years Physician to the Derbyshire General Infirmary), aged 89.

PUGHE.—On the 9th inst., John Pughe, F.R.C.S.E., of Aberdovey.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, APRIL 16TH, 1874.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 9 A.M.
Apr. 10	29·39	W.	45	47	71	55	45	0·23	Overcast
„ 11	29·25	S.W.	42	46	77	51	38	...	Overcast
„ 13	29·46	S.W.	44	46	79	53	39	0·08	Overcast
„ 14	29·09	N.E.	44	45	75	54	41	0·15	Overcast
„ 15	30·07	W.	44	45	85	56	41	...	Overcast
„ 16	29·99	N.W.	48	50	...	...	45	...	Overcast

Notes, Short Comments, and Answers to Correspondents.

DR. FELL'S TREATMENT OF CANCER.

MRS. WINDMILL, of Wing, Buckingham, on whom Jesse Welden Fell, M.D. of the University of New York, and registered, living in London, had practised his escharotic treatment for cancer of the breast, having died thereafter, her death became the subject of a coroner's inquest. The inquest was adjourned to permit of a post-mortem examination and the presence of Dr. Fell. The post-mortem was made by Mr. James Cecly. On the first day of the inquest Mr. Bodger, of Leighton Buzzard, made some rather strong observations against escharotics, and said they were only used by farriers, and were universally condemned by the medical profession. At the adjourned inquest Mr. Cecly reported that the heart, kidneys, and liver of the deceased were the seat of much fatty degeneration, and that the blood was extremely fluid and of a greasy nature, and that the shock of the operation so depressed the patient in this degenerated condition as to prove fatal. At the same time he fairly said that treatment by other means might equally have proved fatal. It transpired that Dr. Fell charged a fee of forty guineas, which he asked to be paid in three instalments—£14 as a guarantee that deceased should remain under his treatment, £14 on leaving London, and £14 again when a satisfactory cure had been effected. A preliminary fee of one guinea had been paid, and the first instalment of £14. We shall not criticise Dr. Fell's charges further than to say that they exceed those of distinguished surgeons. It is to be regretted that he allowed himself to operate on this patient, though it is to be admitted that he appears to have held out very uncertain prospects as to cure, and not to have pressed an operation. The husband of the deceased said he was satisfied that Dr. Fell's plasters—explained by Dr. Fell to consist of "chloride of zinc, powdered sanguinaria, and flour, used as a plaster in the first place, and then introduced by gradual means into dead parts until the cancer was destroyed"—operated too strongly, and broke his wife down. The coroner quoted Mr. Campbell De Morgan as an authority in favour of the escharotic treatment. Dr. Fell quoted Sir James Paget. The jury returned a verdict of "Died from cancer," offered their condolence to the bereaved husband, and left the medical men to settle their differences of opinion among themselves.

Spes.—There would be little harm in having the titles specified on the door-plate; but there would be more taste in the ordinary style, Dr. ——, Surgeon.

Gratia had better consult a medical man in her own neighbourhood.

TENURE OF POOR-LAW AND OTHER APPOINTMENTS BY GENTLEMEN POSSESSING ONE QUALIFICATION ONLY.

To the Editor of THE LANCET.

SIR,—I shall feel obliged if you will, through your columns, bring under the notice of my professional brethren the following statement of facts, as by so doing you will make known a piece of gross injustice towards myself, and may perchance be of assistance to other members of our profession.

I am a duly qualified medical man, and registered, residing in a seaport town, where there are two public appointments, at the present time held by a gentlemen whose only qualification is L.S.A. 1827. One office is that of Admiralty surgeon and agent; the second is the Poor-law appointment. For each of these appointments I have made application to the Admiralty and Board of Guardians respectively, and in each case have been very politely shelved. No reason is assigned why the appointments should not be transferred to me.

I would therefore ask of what value to me is the diploma of the College of Surgeons, and why a fee of two guineas was demanded from me under the Medical Act of 1858, unless my interests were by that Act to be protected? Some of your readers may perhaps be able to inform me where and how I may obtain redress, and by so doing oblige,

Your obedient servant,

April 1st, 1874. ENQUIRENS.

PHRENOLOGY.

PHRENOLOGY to all intents and purposes seems dead. At least very few people would now-a-days agree with all the corollaries which are the natural consequence of Gall's notions. But Gall had a friend at Milan, M. Vossati, and the latter has left funds for a phrenological prize of £80, to be awarded for the first time on August 7th, 1876. The subject is the following: "An Account of the Progress of Cerebral Anatomy and Physiology in this Century with reference to the Doctrines of Gall."

DOCTOR IN ABSENTIA.

BISMARCK, according to the Premier, announced it as his intention on coming to power to liberate Germany from "professors." A more legitimate enterprise would, we think, be the suppression of bogus doctors. The crowded advertising columns of that wittiest of comic journals, *Kladderadatsch*, teem with invitations to all who desire the title of "doctor" on easy (that is, illegitimate) terms. As a rule, the advertisers are German in name and address; but sometimes the doctor-monger hails from London. "Doctor in absentia der Philosophie, Medicin, Chemie, u. Zahnheilkunde wird mit Discretion in honoris causa vermittelt. Addresse, Professor, Rye-lane, Peckham, London." So runs an advertisement in the last number of our contemporary. The peculiar form of "industry" it implies would seem to be a paying one, if we may judge from the frequency and prominence with which it is advertised. Publicity, however, should have no other effect than that of discrediting both its practitioners and their clients, and hasten the time when no one—be he lawyer, divine, or physician—can, under penalties, dub himself "doctor" without due registration of the University which conferred the degree upon him. Germany has long led the van in education. It is a pity that she should still be the chief offender in the manufacture of bogus degrees.

Sanitarian.—It has been shown, as the result of chemical analysis of the contained atmosphere, that the ventilation of a pavilion style of building is far superior to that of other forms. Prof. Parkes states as the result of experiment, and Dr. de Chaumont agrees with him, that with 3000 or more cubic feet of air per hour, it will be necessary to have a sectional inlet area of 24 square inches per bed, and the same for outlet, providing the latter by fireplaces and shafts. In any case, means for diminishing the area of the cold-air inlet openings should be provided.

WE shall hope to notice next week the excellent Report of a deputation appointed by the Glasgow Board of Police to collect information and report on the Construction of Small-pox Hospitals.

Mr. Langston (Pimlico) must consult a surgeon

DR. LIVINGSTONE: AN EPITAPH.

"Build me a hut to die in,"
A home for this weary frame;
But carve on the tree beside him
Some record of his name!

Carve on the tree beside him,
Carve on the *world* around,
One of Time's noblest heroes
In death repose has found!

And the brave, the lion-hearted,
His rest has nobly won!
And the victor's wreath is waiting
For the race so nobly run!

The sands of Time shall discover
The print of his toil-stained feet,
The poor and the rich together
Shall call his memory sweet.

A path for the glorious Gospel!
A way for the nation's wealth:
To the heathen, a hope of heaven;
To the fever-stricken, health!

These are some of the blessings
His labour of love has won;
But onward now he's pressing
To realms beyond the sun—

To realms of light eternal,
To the regions of the blest,
Where in peace and joy supernal
The weary are "at rest."

Cley-next-the-Sea, Norfolk. W. SUMPTER, M.D.

Dr. Currie.—The Rotundo Hospital is perhaps the best hospital for studying midwifery in this country. The diseases of women may also be well studied in London, Edinburgh, or Dublin, though in London at present one school for such studies is seriously threatened with disruption. The student who can afford to do so will be amply rewarded by repairing to the continental schools, especially those of Germany.

Mr. Teevan's paper shall be published shortly.

LEAVE FOR MEDICAL OFFICERS FROM ASHANTEE.

To the Editor of THE LANCET.

SIR,—I am informed that the medical officers just returned from service on the Gold Coast during the late Ashantee war find they cannot be granted any "extra" leave. Now I am also given to understand that all other officers can easily obtain from three to six months' leave of absence, as a slight recompense for very arduous service in such a pestilential climate; but the "doctors" are not to get any leave "beyond the usual sixty-one days"! If this information is correct, and this the manner in which a grateful country encourages medical officers to volunteer their services for such a dangerous and, as it seems, thankless duty, I should not at all wonder if on the next occasion of the kind some difficulty would be experienced in getting volunteers to tender their services. The dissatisfaction at this want of liberality as regards leave is all the more keenly felt by many of the returned medical officers, as the much-vaunted batch of promotions to the rank of surgeon-major on the 1st of April, said to have been intended when the new Warrant was issued, has not as yet appeared. We cannot, therefore, be surprised if our military medical brethren consider they have some just cause of complaint. Yours truly,

April 10th, 1874. L.R.C.P.

INCURABLE DISEASES.

THERE are unfortunately several such diseases, and honest medical men are not slow to confess the fact. But pretenders will hold out promises which cannot be kept, and cruelly trade upon the very natural weakness of the poor sufferers. How little reliance can be placed on the boasted cures of cancer was forcibly proved at Paris at the distribution of the prizes at the Academy of Medicine. A reward of £120 is annually offered to the person who shall discover a remedy for an incurable disease. This year only *one candidate* presented himself. He pretended that large doses of cod-liver oil will cure cancer, and quoted twenty-two patients, among whom one only was supposed to have regained health; but as her further history is not mentioned, no credence was given to this single and doubtful case. The prize of £120 does not tempt cancer-curers, simply because their cases would have to be minutely sifted and examined.

Public Vaccinator.—The anti-vaccinationists are irrepressible; but the public is too much for them, and begins to perceive that they are a little crazy. Nothing suits their purpose better than to obtain serious notice of what they write.

P. Y. S.—Write to the Secretary of the institution.

A "CUTTING TRADE."

To the Editor of THE LANCET.

SIR,—I do not think the medical profession is likely to be accused of trade-unionism, but rather the contrary, as apparently there are some of its members so utterly thoughtless of anything but self and self-interest that they do not consider the interests of the profession at all. I give the following instance of professional liberality for the edification of your readers.

Some five years since I accepted the post of medical officer to an outlying parish, the clergyman of which was a great personal friend of mine. The distance from my residence is three miles and a half, and I had to pass through two turnpikes, entailing on each journey an expenditure of one shilling. I had to provide a surgery in the district; the expenses of this and turnpikes amounted to £7 6s. per annum, out of the magnificent salary of £15. So that pecuniary gain was not my object in taking the post. My friend the clergyman died last year. The rector of the parish met me, commiserated the miserable remuneration, and I have his letter recommending me to apply to the guardians for an increase of salary, and stating that he would, as one of the guardians, support my application. I did so apply, and received no reply for a week; but was informed that in the meanwhile the guardians had offered the post to a gentleman who had just taken a practice some *seven miles* from the district. I wrote to this gentleman, stating the circumstances of the case, and expressing a hope that he would not accept the post. He replied curtly, "that it had been offered to him, and he had accepted it."

As long as Boards of Guardians find that there are members of the profession who are so *hungry* as to do what is termed in business "a cutting trade," so long will the members of the profession have to complain of being underpaid and snubbed by all with whom they come in pecuniary contact. To all our applications for a fair remuneration for our services we shall be met with the reply, "If you're not satisfied, Mr. So-and-so will do it for the same or even less." The lawyers, while they oppose, make work *for* each other. It is only in the medical profession that "dog eats dog."

I am, Sir, yours &c.,

April, 1874. JACOBITE.

*** We are so ashamed of such conduct as that complained of by our correspondent that we forbear even to comment on it at length. We publish it as a warning to those who may be tempted to forget in selfishness what is due to the great profession of which we are members. As long as parsimonious guardians can find medical men to abet them in their false economy, so long will the profession be under-estimated and despised. We venture to hope that the Local Government Board may object to this doctor, who lives seven miles off, making himself so cheap. They will do him a friendly turn if they do so.—ED. L.

Mr. Thos. M. Watt.—We should be glad of a short account of the case, under the head of Tenacity of Life, and in the form of a letter. What were the proofs of scarlet fever? A medical man cannot make such charges as would compensate him for such services as those described. Moreover, we take leave to say that a medical man should not be asked to sit up twenty nights, and that when asked he should decline. To do what our correspondent did is to break the sixth commandment, and to let oneself out as a nurse.

Bickal.—The sweating sickness was called Ephemera Britannica, and at the time it visited London it was absurdly supposed to attack Englishmen only, all other nationalities escaping.

CHLORIDE OF AMMONIUM IN DEAFNESS.

To the Editor of THE LANCET.

SIR,—Allow me to add my testimony to the efficacy of the chloride of ammonium in some kinds of functional deafness. I lately tried it in a case which had resisted all manner of treatment for eight or nine months, the patient being as deaf as anyone could be. I had only given four or six ten-grain doses when the sense returned in the most perfect manner, and still continues perfect. I had previously tried so many methods, including a galvanic chain, that I really had little hope from anything. I send you this case for the benefit of others who may have a similar one.

I may add that a patient of mine who is liable to attacks of deafness—*perfect* deafness—is always relieved by a mixture of bicarbonate of sodium, hydrocyanic acid, and bismuth, and this case is *not* benefited by the chloride of ammonium, nor by any other drug or mixture except the one just named. Perhaps this might be of use to the patient mentioned in THE LANCET two or three weeks ago, who was not improved by the chloride.

I am, Sir, yours truly,

Bradford, April, 1874. J. FARRAR, L.R.C.P., &c.

THE LATE NÉLATON AND THE ACADEMY OF MEDICINE.

IT is not a little strange that this eminent surgeon, who a short time back filled both hemispheres with his name, and attained every one of the distinctions to which a member of our profession can aspire, failed signally on his first attempt to enter the Academy of Medicine of Paris. It is stated by M. Amédée Latour, in one of his clever academical sketches, that when M. Ricord was elected in 1850 he had several competitors—viz., Larrey, Gosselin, Nélaton, and Maisonneuve. Ricord obtained 59 votes, Larrey 32, Gosselin 5, Maisonneuve 1, and Nélaton *none at all*. Twenty years afterwards Nélaton was at the head of French surgery, and carried everything before him.

A Subscriber.—It is not customary for the family medical attendant to demand a fee of two guineas when a consulting physician is called in. Grateful patients, who happen also to be wealthy, sometimes give the family physician the same fee as that given to the consultee. But practitioners are too practical to make a demand to this effect. They are, nevertheless, entitled to a fee of one guinea or more according to the means of the patient, for taking part in a consultation. The information conveyed by the family attendant in a consultation is invaluable; the time of meeting is fixed without reference to his convenience, and the time occupied exceeds greatly that of an ordinary visit. Clearly his services are entitled to a special recognition; but the particular demand must vary with the circumstances of the case.

Scopas, (Ryde.)—There is no hospital at Caldera, Chili; but at Copiapo there is a tolerably good one, where sick seamen and other patients are admitted free of charge. The contribution for hospital dues from vessels amounts to 163,450 dollars.

THE WEBB FUND.

THE following contributions have been received by Mr. Augustus Churchill, the Treasurer, to the 15th inst.:—

	£	s.	d.
Mr. Willington Clark	2	2	0
Mr. Stephen Olding	5	5	0
Miss May Olding	1	1	0
Mr. H. Bodkin Poland	5	5	0
Mr. Thomas Morson	3	3	0
Mr. W. J. Harris	2	2	0
Mr. John Morgan	5	5	0
Dr. Silver	2	2	0
Dr. Lavies	3	3	0
By Dr. T. Smith Rowe—			
Mr. J. Chippendale	1	0	0
Mrs. Yglesias	1	1	0
Mr. H. Curling	1	1	0
Dr. Bramwell	1	1	1
Mr. T. Wright	2	0	0
Miss Wright	1	0	0
Miss E. Wright	1	0	0
By Dr. T. Smith Rowe—			
Miss J. Wright	£1	0	0
Mr. Henry Thompson	10	0	0
Dr. Ransom	3	3	0
Dr. Tom Hewitt	2	2	0
Mr. A. E. Durham	2	2	0
Mrs. Andrew Duncan	5	5	0
Dr. B. Carrington	2	2	0
Mr. R. Crawford	5	0	0
Mr. Thomas Knight	2	2	0
	70	7	0
Amount previously acknowledged	1808	14	6
Total	£1879	1	6

Epistan, (Edinburgh.)—The degree of Ph.D., as given in German Universities, is held equivalent to that of M.A. as conferred in British ones. It is a too common practice among English holders of the former to add M.A., and thus delude the public into thinking that they have graduated twice.

Mr. J. Dyson.—1. Heath's Anatomy.—2. Huxley's or Mapother's or Bennett's Physiology, the first best adapted for the wants of our correspondent.

A Dental Student will require two years' attendance at a recognised hospital and medical school, in addition to the courses at the dental school.

THE RATIO OF MEDICAL MEN TO THE POPULATION.

To the Editor of THE LANCET.

SIR,—In your impression of to-day I notice that you quote Poole as having a small average of practitioners for its population; but as the following facts materially qualify that assertion, I beg respectfully to bring them under your notice.

The population of the town is about 6600, the remaining 3500, which are counted in to make 10,000, merely residing in the Poole Union districts, which districts, from their vast extent, are for the most part situated nearer to Wareham, Wimborne, Bournemouth, and Parkstone than to Poole. All of these towns have resident medical men, who, being nearer to the Poole district than the Poole doctors themselves are, obtain for the most part the practice in their vicinity. After deducting paupers, and a fair proportion of those residing near other practitioners at a distance, there would be left *one* medical man to about seven or eight hundred of the population.

I am, Sir, yours faithfully,

Poole, April 11th, 1874. E. P. P.

M.R.C.S.—Such a qualification as that mentioned does not carry the title of "surgeon," and the owner of it as a sole qualification, doubtless, violates the Medical Act in calling himself surgeon. Nevertheless, the case is not one deserving of much censure. The L.S.A. is a qualified, probably a registered, practitioner, having had an education similar to, if not identical with, that of a M.R.C.S. He is punished enough by being disqualified from recovering for professional services in surgical cases. Such absurd limitations of qualification are a discredit to the law rather than to individual practitioners.

MEDICAL EMOLUMENTS.

A CORRESPONDENT is desirous of obtaining information on the following points:—1. The emoluments of a visiting surgeon and inspector of hospitals under the Contagious Diseases Acts. 2. Those of an assistant-surgeon and surgeon to convict prisons at home and abroad.

ARTIFICIAL BUTTER.

THE *Boston Medical and Surgical Journal* states that artificial butter, manufactured from beef-suet, "having met with an extensive sale in London and Paris," is now being introduced into the markets of New York and Boston. The butter is made from the yellow, tasteless, and odourless oil that is obtained from beef-suet. This oil is placed in churns with one-fifth its weight of sour milk, and churned until an emulsion is formed, annatto being added to give it the required colour. It is then cooled, worked, and salted. The compound is said to have both the appearance and taste of ordinary butter. We commend this paragraph to the notice of our analysts. It is pleasant to learn that the experiment was first tried on English digestive organs.

A Physician.—There is no general rule. Write to a publishing firm for their terms for publishing.

Anatomist, (Poole.)—The principal works of Cheselden were the "Anatomy of the Human Body," which went through several editions, "On the High Operation for Stone," and "Osteography."

A SOLVENT FOR CROTON CHLORAL.

To the Editor of THE LANCET.

SIR,—In several communications on the uses and properties of croton chloral which have of late appeared in THE LANCET and other medical journals, I perceive the difficulty of dissolving that substance in water has been strongly dwelt upon. Will you, therefore, permit me to state that I find it is greedily taken up by ordinary proof-spirit, five or even ten grains being readily soluble in as little as half a drachm of the spirit, to which any quantity of water may subsequently be added.

Herne Bay, Kent, March 28th, 1874. G. C. WALLICH, M.D.

J. A. P.—Why does not our correspondent make them for himself? Full directions are given in the "Handbook for the Physiological Laboratory," or in Lockhart Clarke's papers in the "Philosophical Transactions." Perhaps Dr. Klein, of the Brown Institute, Wandsworth-road, would answer, if applied to properly.

G. R. F.—The biennial festival of the Royal Medical Benevolent College will take place at Willis's Rooms on Wednesday next.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir W. Fergusson, London; Sir Alexander Armstrong; Dr. C. J. B. Williams, London; Mr. Campbell De Morgan, London; Dr. Gavin Milroy; Mr. Jabez Hogg, London; Dr. Fox, London; Dr. Adams, New York; Miss Black, Newcastle; Mr. Bader, Worcester; Mr. Birchell, Leeds; Dr. Protheroe Smith, London; Mr. Walker, Lancaster; Dr. Cooke, London; Dr. Henry, Essex; Mr. J. Langton, London; Mr. Townsend, Kensington; Mr. Ingpen, London; Mr. Doran, London; Mr. Delves, Exeter; Dr. Luce, Cambridge; Mr. Bredin, Staplehurst; Dr. Bond, Gloucester; Miss Bromley, Bewdley; Dr. Mackenzie, Batley; Mr. G. Steet, London; Dr. Hansem, Presteign; Mr. Hind, Terfyn; Mr. Longhurst, Farnham; Dr. Chinery, Lymington; Dr. Roden, Droitwich; Dr. Waller, Bath; Mr. Wills, Bootle; Mr. Grove, Fairford; Dr. Godfrey, Connahs Quay; Miss Webb, Gravesend; Mr. Fox, Manchester; Mr. Stewart, Glasgow; Mr. Demarget, London; Mr. Sanby, Nottingham; Mr. Kershaw, Middleton; Dr. Davies, Ebbw Vale; Dr. Place, Paris; Dr. Philpots, Poole; Dr. Leake, Ramsgate; Dr. Finch, Colchester; Mr. Thom, Straithkenniss; Dr. Rutherford, Lochgilphead; Mr. Dawson, Brentwood; Dr. Whidborne, Devonport; Mr. Hudson, Newport; Mr. Pope, Tring; Dr. Browning, Bow; Dr. Sergeant, Warboys; Mr. Edwards, London; Dr. Cheesman, Knightsbridge; Dr. Thomson, Higham Ferrers; Mr. Roberson, Pentonville; Mr. Mallard, Clevedon; Messrs. Gardiner, Wisbeach; Dr. Barker, Bury St. Edmunds; Mr. Stainthorpe, Hexham; Mr. Lewis, Wingham; Mr. Jeffreys, Chesterfield; Mr. Ranken, Glasgow; Dr. Moriarty, Woolwich; Dr. Benjafield, Hobart Town; Mr. Fountain, Buckingham; Mr. Sewell, Dulwich; Mr. Little, Buxton; Mr. Watkins, Worcester; Dr. Fisher, Shere; Mr. Grove, St. Ives; Dr. Owen, London; Mr. Watkins, Worcester; Dr. Wrangham, Wragby; Mr. Blair, Alnwick; Dr. Davies, Cymer; Mr. Lamb, Hull; Mr. Hayes, Hexham; Mr. Philpots, Leamington; Mr. Maynard, Holloway; Mr. Purcell, Nottingham; Mr. Shepherdson, Hull; Dr. Maxwell, Stickney; Mr. Hewitson, Allenheads; Mr. M'Neil, Partick; Mr. M'Nab, Inverness; Mr. Slater, Ryde; Dr. Black, Glasgow; Dr. Sumpter; Mr. Cheen; Mr. Davis, Birmingham; Mr. Watt, Hovingham; Mr. Robinson, Dublin; Dr. Morehead, Edinburgh; Mr. Jordan, Moseley; Dr. Sutcliff, Oxford; Mr. Holloway, London; Mr. Carey, London; Mr. J. A. Phillip, Gloucester; Mr. Havard, Newport; Dr. Kirkland; Mr. Dyson, Colne; Mr. Nelson, Alton; Dr. White, Boston; Mr. Jelly, Madrid; Mr. Finney, Dublin; Dr. Currie, Sydney; Dr. J. Craig Waddell; Dr. Quinlan, Dublin; Dr. Bucknill, Rugby; Dr. Sawyer, Birmingham; Dr. Wallich, Herne Bay; Mr. Eyres, London; Mr. Waldron, London; Dr. Lowe, Wolverhampton; Dr. Gramshaw; Mr. Corin, Liskeard; Mr. Lucas, London; Mr. Phillips, London; Mr. Leyton, London; Dr. Carr; Dr. Benham; Mr. Sullivan, London; Royal Institution; M.D.; The Secretary of St. George's Hospital; J. M. B.; C. M. R. S., London; Anxiety; Medicus; A Subscriber; E. P. P.; Crimea; A Physician; L.M.; Gratia; The Secretary of the Medical Club; J. H. B.; A Dental Student; The Secretary of the Quekett Microscopical Club; P. Y. S.; &c. &c.

Melbourne Weekly Times, Newcastle Daily Chronicle, Colonial Standard, Manchester Guardian, Circle, East London Observer, Cork Constitution, Surrey Advertiser, Macclesfield Chronicle, Lincoln Gazette, Isle of Man Times, Keighley News, Cambridgeshire Express, Irish Hospital Gazette, Leeds Mercury, Chemist and Druggist, and *Canada Medical Record* have been received.

Medical Diary of the Week.

Monday, April 20.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations on the Eye, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON. — 8 P.M. The adjourned discussion on Mr. Keene's communication concerning "Death from Chloroform" will be reopened by Dr. Richardson.
SOCIAL SCIENCE ASSOCIATION.—8 P.M. Mr. Wm. Vallance, "On Out-door Relief."

Tuesday, April 21.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Rutherford, "On the Nervous System."
PATHOLOGICAL SOCIETY OF LONDON. — 8 P.M. Adjourned Discussion on "Cancer."

Wednesday, April 22.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, April 23.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. W. Noel Hartley, "On the Atmosphere and its Relations to Life."
HUNTERIAN SOCIETY.—8 P.M. Mr. Rivington, "On a Case of Intraorbital Aneurism."—Mr. Corner, "On a Case of Intraorbital Aneurism successfully treated by Tying the Common Carotid." — Mr. Wagstaffe and Mr. A. H. Smee will exhibit some Colloid Silica Splints for the Treatment of Fractures.

Friday, April 24.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Weekly Evening Meeting.—8 P.M. Mr. C. W. Merrifield, "On Sea Waves."
QUEKETT MICROSCOPICAL CLUB.—8 P.M.
CLINICAL SOCIETY OF LONDON.—8½ P.M. Dr. Anstie (for Mrs. G. Anderson), "On a Case of Malignant Disease of the Colon."—Mr. Henry Lee, "On a Case of Traumatic Stricture of Trachea."—Dr. Morell-Mackenzie: "Cases illustrating Treatment of Cystic Bronchocele."—Dr. J. Althaus, "On Faradisation in a Case of Lead-poisoning."

Saturday, April 25.

HOSPITAL FOR WOMEN Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Op rations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Seeley.

TERMS OF SUBSCRIPTION TO THE LANCET.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year..... £1 12 6 | Six Months..... £0 16 3

TO THE COLONIES.		TO INDIA.	
One Year.....	£1 14 8	One Year.....	£1 19 0

Post-office Orders in payment should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable to him at the Post-office, Charing-cross.

TERMS FOR ADVERTISING IN THE LANCET.

For 7 lines and under	£0 4 6	For half a page	£2 12 0
For every additional line.....	0 0 6	For a page	5 0 0

The average number of words in each line is eleven.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday; those from the country must be accompanied by a remittance.

Agent for the Advertising Department in France—

Mons. DE LOMINIE, 208, Rue Grenelle St. Germain, Paris.